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PROBLEMS ASSOCIATED WITH THE RAPID EXPANSION OF A CIVIL HOSPITAL TO MEET THE NEEDS OF CIVIL DEFENCE IN POSSIBLE ATTACK BY THERMO-NUCLEAR WEAPONS.¹

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THE purpose of this thesis is to consider the problems which would be confronted in the administration of an individual hospital in its preparation to meet a thermo-nuclear attack. Although the broader problems of civil defence organization and even those of over-all hospital planning are beyond the scope of the subject, some preliminary consideration of the over-all problem is necessary for orientation.

A potential enemy could now attack with a bomb 500 times the "nominal" bombs used at Nagasaki and Hiroshima (lectures of the Commonwealth School of Civil Defence). The damage to buildings likely to be caused by such a bomb is said to be as shown in Table I (lectures of the Civil Defence Organization, N.S.W.).

It is said to be possible to launch such a bomb from the air or from a submarine (with no immediate

warning), and recent developments would seem to place the intercontinental guided missile well within the range of possibility.

Casualties would occur on a scale never before contemplated. Based on overseas figures, the estimate of casualties surviving the blast for a city of the population of Sydney could be up to 400,000. The types of casualty to be anticipated are burns, 60%; blast trauma, 50%; radiation, 20% (Hiroshima figures). Many would be in combination, as the percentages indicate.

The distribution of primary lesions given in recent American estimates is burns, 50%; blast, 25% to 35%; radiation, 15%.

In civil defence planning, existing hospitals may be called upon to function in various ways, depending on their location relative to the disaster area; (a) on the outskirts of the disaster area as "disaster area" transit or cushion hospitals; (b) away from the disaster area as base or evacuation hospitals.

Figure I demonstrates the flow of casualties from the disaster area.

The New York Manual of Hospital Organisation for Civil Defense summarizes the requirements of an existing hospital in a disaster area as follows.

- Make repairs necessary to render the Hospital serviceable.
- Expand existing facilities to the maximum without delay and without waiting for orders.

¹A thesis prepared and submitted for Fellowship of the Australian Institute of Hospital Administrators.

- (c) Provide for additional personnel necessary to permit operation of the expanded Hospital for twelve hours following the attack.
- (d) Release personnel other than those required for the first twelve hours of operation to serve in Aid Stations and other Medical Installations.
- (e) Use personnel of other communities in the operation of the expanded Hospital after the first twelve hours.

Hospitals away from the disaster area are expected to—

- (a) Expand existing facilities to the maximum.
- (b) Make available personnel to serve in the disaster area.
- (c) Provide specialised care during the later post attack periods.

In hospital planning it is suggested that emphasis should be placed on

- (a) Flexibility.
- (b) The importance of the first 18 hours after attack from the point of view of saving life.
- (c) The importance of training Hospital personnel to serve anywhere and not merely in their own Hospital.

TABLE I.
Extent of Damage.

Damage.	Air Burst (8000 Feet).	Ground Burst.
Total destruction	4 miles.	3-5 miles.
Irreparable damage	6 miles.	5 miles.
Moderate to severe damage ..	16 miles.	13 miles.
Light damage	24 miles.	20 miles.

Expansion of Accommodation.

The first question to be determined is how far a hospital should aim to expand. American and Canadian authorities suggest three times as a maximum on the grounds that, with further expansion, there must be a considerable loss of efficiency. In Australia, however, the deplorable lack of available accommodation, which would certainly follow an attack on any city, would necessitate considerably greater expansion. It is suggested that five to six times normal bed capacity, or even more, would be required of any hospital whose buildings and organization remained reasonably intact.

Possible avenues of expansion to be considered are: (i) use of all available space in existing patient areas; (ii) use of staff accommodation, alternative arrangements being made for the staff; (iii) improvised accommodation within the hospital grounds, such as tents and prefabricated huts; (iv) improvised patient accommodation in suitable buildings adjacent to the hospital.

It is to be assumed that in the presence of a "threat", every effort would be made to transfer long-stay hospital patients to country areas, and that admissions would be limited to urgent cases. Those patients remaining in hospital would require to be classified for evacuation purposes, and classification would need to be reviewed daily. On any deterioration of the international position, all but the immobile would be evacuated.

Use of Additional Space in Existing Patient Areas.

By this means the number of beds should be able to be increased by 50% to 100%. In most hospitals it would be possible to place one additional patient between every two beds. In addition, lounges and even wide corridors would be utilized.

Use of Staff Accommodation.

On the grounds that the facilities of staff accommodation would be more urgently required for the nursing of the injured, it would appear reasonable to utilize all staff accommodation for patients, and provide alternative staff accommodation either under canvas in

the hospital grounds or in billets close to the hospital. Objections may be raised to this suggestion on the grounds that staff would be overtaxed, and should not have their accommodation interfered with. In the circumstances, such objections are, in my opinion, untenable. Allowing for a normal average patient load of 1-3 patients per nurse, it is estimated that in an emergency over 400 patients could be nursed in the nurses' home of a 200 bed hospital as follows: two patients in each of 160 rooms (320 patients), and 100 patients in the lounge and study rooms.

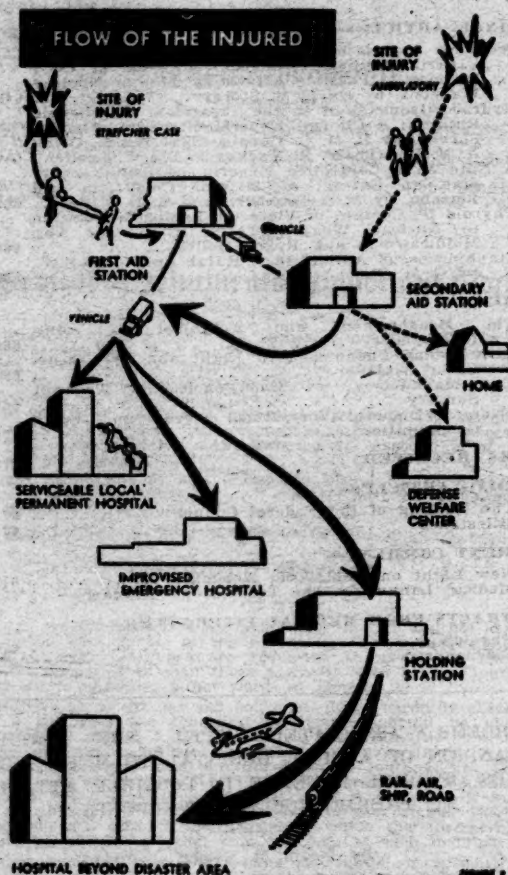


FIGURE 1.

Flow of the injured from a stricken area (from the "Manual of Hospital Organization for Civil Defense", Manual 111-A-1, New York State Department of Health, New York).

Resident medical and domestic staff accommodation could be similarly utilized.

Improvised Accommodation in the Hospital Grounds.

Under this heading the use of suitable tentage is worth consideration. The large hospital pattern marquee tent, 35 feet long by 17 feet wide, is the standard ward for army tented hospitals. These may be pitched in pairs, with smaller tents between and at the ends to provide ward services. The "expanding" type of hospital marquee as used in Australian General Hospitals in 1939 to 1945 is a very adaptable tented ward (see Figure II).

Larger size auto tents, 15 feet by 12 feet, might be more readily available in the community, and could be

impressed for hospital use in time of "threat". If tents are to be used, consideration should be given to the selection of the sites in advance, and to the possible provision of cement floors and water stand pipes. Tents should not be pitched before the attack on account of their susceptibility to destruction by fire and blast.

The disadvantages of tented accommodation for patients would be: (i) the work required to pitch them at a time when every available hand would be needed for other purposes; (ii) the lack of protection in the event of radioactive fall-out in the area (although distance alone offers fair protection). The main advantage is that their use brings the improvised accommodation as close as possible to existing hospital facilities.

The possibility of using tentage for improvised staff accommodation should be kept in mind.

A suitable type of prefabricated hut, consisting of timber or aluminium frame with corrugated iron, aluminium or asbestos roof, could be stored ready for erection on predetermined sites adjacent to existing wards or operating theatres. The walls of such huts could be of "Sisalkraft" or similar proofed paper. Cement floors (with slots for the upright members) could be laid at selected sites, and water stand pipes provided.



FIGURE II.

Hospital-pattern marquee (extending type) in use as a hospital ward at an Australian general hospital during the 1939-1945 War.

Improved Accommodation Outside the Hospital.

A survey should be conducted of buildings in the vicinity of the hospital to determine their suitability for use as wards. Many schools, church halls, warehouses, etc., would be suitable. Some hotels might be of use. The use of external buildings must be coordinated by the central civil defence authority, as other emergency services would require accommodation. If it is decided to use staff accommodation for patients and to billet staff out, plans should be made for this in advance.

Improvisation of Equipment.

Beds and Bed Substitutes.

The most pressing need will be for beds or bed substitutes. It is suggested that the best solution to this problem would be to nurse casualties on the stretchers or litters on which they are brought to hospital. Stretchers will be needed in great numbers for casualty collection, and it would be easier both before and immediately after the attack to have an increased number of stretchers rather than to have a separate improvised bed and be transferring patients from one to the other.

The New York Civil Defense Service has a "litter cot", which serves as both a "litter" or stretcher and as an improvised bed, utilizing four folding legs. These litter cots can, moreover, be stacked one on top of the other for conserving space both in improvised ambulance vehicles and also in hospital (Figure III).

Failing the adoption of some similar unit by the local civil defence authority, the army pattern stretcher could

be used in a similar way, the hospital supplying suitable trestles or frames on which the stretcher could be rested to form improvised beds.

Bedding.

Hospitals should store sufficient blankets to provide three for each casualty patient and two sterile sheets. The use of sterile sheets would minimize the infection rate in burns in the early stages when dressings would be at a premium.

Furniture for Improved Ward Accommodation.

Furniture will probably have to be limited to folding tables and what other furniture exists in impressed buildings.

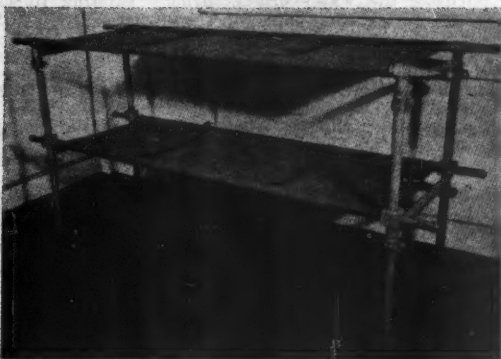


FIGURE III.

The "litter-cot" used by the New York Civil Defense Authority: from above downwards, as a litter, as a cot and as a two-tiered cot (from "Guide for Nurses", New York State Department of Health).

Pans and bottles should be purchased, if possible, on the scale of pans 50%, bottles 25%, of the estimated number of beds.

Eating utensils should be designed for simplicity. A type of combination knife, fork and spoon should be considered.

Instuments, etc., required for a thousand casualties are given in Appendix A.

Emergency Utilities.

It is suggested that the only satisfactory basis for hospital planning will be the complete interruption of all public utilities for the first five days of the post-attack

period. Thus local arrangements must be made for alternative sources of water, electricity, heating (gas, coal and fuel oil), sewerage, and communication.

Water Supply.

Water presents the most serious problem. The normal consumption of a general hospital may be taken as 200 gallons per bed per day for all purposes. In a hospital of 200 beds, 10,000 gallons will probably be used per day in steam-raising alone.

Whilst the use of water for all purposes would have to be cut to the barest minimum, a substantial alternative water supply will be required to maintain essential services and to provide drinking water for patients and staff, and for many other people who may turn to the hospital for a few ounces to quench their thirst. For a hospital of 200 beds normal capacity, a minimum emergency storage of 50,000 gallons is suggested.

As the construction of an underground tank of this capacity (20 feet in diameter and 25 feet deep) would be a costly undertaking, it would seem reasonable to attempt to combine this emergency function in some structure which could have a peace-time use. It is suggested that a swimming pool could be constructed 20 feet wide by 50 feet long by an average of 8 feet deep. This would provide 8000 cubic feet of water, which at 6.2 gallons per cubic foot gives approximately the suggested 50,000 gallons storage.

Such a swimming pool would provide an excellent staff amenity. If it could be located so that there was a gravity feed of water discharged from the pool to the boiler hot well, this would serve the dual purpose of preventing water waste in peace time and of feeding the boilers in an emergency.

On the occurrence of any threat, use of the pool for swimming would be discontinued; the pool would be emptied and chlorinated and refilled. A prefabricated roof, previously stored for the purpose, could then be placed in position. A suitable pump should be provided to reticulate the water either through existing lines or by special reticulation laid for the purpose.

Electricity.

The interruption of electrical supply would be almost certain. The majority of hospitals already have an emergency plant capable of carrying essential services for a few hours. These plants are often of the order of 25 or 50 kilowatts.

Rather than increase the capacity of emergency plants in all hospitals, a pool of, say 100 kilowatt mobile generators of the type used by the army in the 1939-1945 war could be provided, and stored at strategic points just outside the city area, with the instruction that hospitals which continue to function be allocated one auxiliary per 100 beds of original capacity.

Heating Fuel.

Various types of fuel may normally be used.

1. Coal or fuel oil for steam raising. In any time of threat, at least one week's supply of fuel should always be regarded as a minimum stock. Consideration should be given in planning to the fact that the source of fuel oil might be completely cut off, and facilities for using alternative fuel such as coal should be installed.

2. Gas. Normal gas supply would almost certainly be interrupted. A hospital could be using gas for some at least of its cooking and for laboratory work.

3. Liquid petroleum gas in cylinders is a useful standby, and a week's supply could be maintained—stored in an area where it could not augment a fire.

Other than this, substitute appliances for cooking using kerosene or wood fuel could be maintained. The Soyer stove of the Crimean campaign might still have to be used; three 44 gallon drums of kerosene should be stored for emergency lighting and heating, and sufficient petrol or Diesel fuel for the motors of an emergency plant.

Sewerage.

Sewerage service could be interrupted, and a hospital would then have to improvise its own sanitary service by digging deep trenches or improvising some form of incinerating disposal. Garbage disposal services could be similarly improvised.

In these circumstances, sanitation should be the responsibility of a definite unit, supervised by a medical officer specially nominated.

Communication.

External telephone communication would probably be interrupted; internal communication, if the hospital survived, would probably be able to be repaired. Emergency power within the hospital should supply the internal communication system. It would provide a useful substitute channel of external communication if all essential services, including hospitals, could be linked by frequency modulated wireless transceivers for use in time of disaster.

The auxiliary personnel should include a small team of juveniles of high-school age trained as messengers. They would be able to provide some communication, both internal and external, in the event of temporary complete breakdown of other types of communication.

Organization of the Medical, Nursing and Ancillary Services.

The basic problem is to provide care for casualties at least five times the hospital's normal capacity, in the following approximate proportions: burns 50%; mechanical trauma, including fracture, 35%; radiation illness, 15%. In addition, it will be necessary to allow for a small proportion of cases of non-casualty acute illness, and for obstetric cases.

Functional organization to meet the need is well represented graphically in Figure IV.

The first problem is the allocation of areas within the hospital to the various functions.

1. Receiving and sorting section. This requires to be a fairly large area close to one of the hospital entrances, with access roads permitting vehicular traffic in and out without turning and congestion. In a fairly large hospital, the normal out-patient area might well serve, or the section might be housed in some suitable improvised accommodation on the periphery of the hospital.

2. Shock wards. As most of those patients admitted to hospital in shock will ultimately require surgery, the shock ward should be located in a position giving easy access to the operating area. Its use would have to be restricted to those undergoing resuscitation prior to surgery. Patients with burns and in a condition of shock would have to be admitted direct to burn wards.

3. Burn wards. These will comprise about 50% of all areas available. Converted staff accommodation would probably be most suitable for this purpose, as reasonable facilities for resuscitation will be required, although accommodation need not be adjacent to the operating theatre.

4. Mechanical trauma wards. These will be better housed in the normal surgical block close to the operating theatre. Normal occupancy of this area would need to be increased about 100%.

5. Operating theatres. Facilities for operating will almost certainly need to be increased. The peace-time recovery room, if situated in the operating area, would probably lend itself to conversion to additional operating area. Anaesthetic or recovery trolleys or suitable tables from other hospital areas would have to be used as improvised operating tables.

6. Recovery room. The ward nearest the operating theatre would serve best as the recovery room, as the normal recovery room will almost certainly be required for additional operating theatre accommodation, and would not in any case be large enough for the expanded recovery room service.

7. Radiation sickness wards. These should be set up away from the ordinary ward areas; improvised accommodation in converted halls, schools or under canvas would be suitable.

8. Non-casualty areas. These should be set up in an improvised area for obstetric cases and non-casualty surgical emergencies.

Medical Services.

The problem is to allocate suitable staff to each of the functions outlined. Full use should be made of the hospital's own staff and of medical practitioners practising in the area. Dentists could substitute in quite a few functions, and would be required for facial injuries.

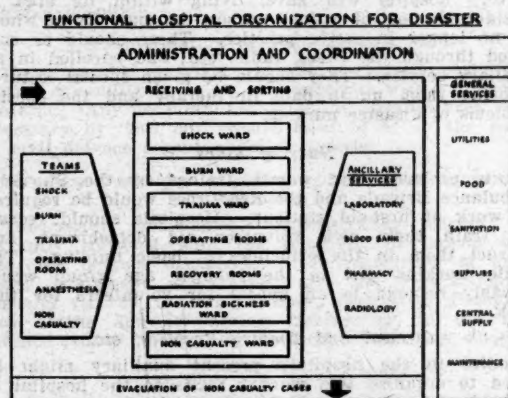


FIGURE IV.

Functional hospital organization to meet the needs of an atomic attack (from "Civil Defence Health Services Manual", Canadian Department of National Health and Welfare).

The receiving and sorting area should be in the charge of a senior member of the staff, preferably one who has had some previous experience in handling casualties under war conditions. Officers with expert knowledge of burns, surgical trauma and radiation effects should be allocated to this area to assist the senior officer-in-charge. The importance of this sorting function and the necessity for allocating to it the best possible people cannot be over-estimated.

As a general pattern, physicians would be allocated to the treatment of shock, radiation and burns; surgeons to the treatment of trauma and to the management of the operating service and burns.

Anæsthetic and recovery room services would be provided by anæsthetic staff.

The pathology staff would be responsible for laboratory services and the blood bank (assisted by physicians as required), and the pathologist might well be placed in over-all charge of mortuary services.

Radiologists would carry out their normal duties.

Resident medical staff should be allocated in proportion amongst the various functions. It is well to have a senior medical officer appointed as evacuation officer with the responsibility of supervising the evacuation of suitable patients to base hospitals outside the disaster area.

In a disaster of this magnitude, the philosophy of all personnel would have to be adjusted to giving priority to those casualties with a reasonable chance of survival and rehabilitation, otherwise those with the better prospects might deteriorate whilst valuable time was spent on the almost hopeless.

Nursing Services.

The matron would be responsible for all nursing functions and the assignment and administration of staff, including auxiliary nursing staff.

Reorientation of the nursing service would involve the following major principles: (i) reassignment of trained nurses available to provide a wider service; (ii) delegation to trained nurses of certain functions such as the administration of intravenous infusion, minor suturing and assistance with anaesthetics, which would normally be performed by medical practitioners; (iii) emphasis on the responsibility of trained and senior trainee nurses for the supervision of increased numbers of nursing aides and other volunteers; (iv) a sharp reduction in the number of routine peace-time nursing procedures. It is probable that senior trainees will have to take over the duties normally allocated to trained staff, and that trained staff will be allocated to nursing supervision and the special functions suggested further on.

In the early part of the post-attack period, trained staff supervision would require to be spread more evenly over the 24 hours than it is at present. As regards rostering, in the first 24 hours all available staff would probably be required. Thereafter, 12-hour and finally 8-hour rosters could be organized.

The functions of basic nursing would be delegated to aides and to part-trained or untrained volunteers.

The expanded function of trained staff is elaborated as follows: (i) assistance at surgical operations; (ii) dressing of serious wounds and burns; (iii) administration of intravenous therapy; (iv) supervision of the administration of oxygen; (v) administration of narcotics and sedatives (the trained staff would probably be allowed the initiative in this, subject to careful recording of all dosages); (vi) administration of anaesthetics under medical supervision (one doctor could then supervise three anaesthetics); (vii) supervision of central sterilizing and supply; (viii) direction and supervision of a large number of volunteers in routine nursing procedures.

In order to relieve nursing staff for strictly nursing duties, the responsibility for food service should be left entirely with the dietary service.

All ward supplies, such as linen, pharmaceuticals and general stores, should be on an automatic imprest system, organized and staffed by the various departments concerned. Any employee from the accounts section or general office who can be released could assist in these latter services.

Ancillary Services.

Pathological and X-ray services have already been mentioned under the heading of medical services. It would be wise to allocate all personnel of these departments to their usual functions in the initial stages, until the exact requirements of the services of their departments can be ascertained.

The following functions would be allocated to the pathology department. (a) In the immediate post-attack period: (i) blood bank—assembling and bleeding local donors if necessary, and cross matching of blood for administration; (ii) mortuary service—a senior pathology technician under the direction of the pathologist could well be responsible for this. (b) After the first 48 hours: (i) blood bank function would continue; (ii) limited haematology examinations—haemoglobin and haematocrit estimations; (iii) antibiotic sensitivities of wound infections and burns (if other functions allow); (iv) mortuary service to continue.

The X-ray department would probably be fully occupied taking the skiagrams necessary to locate and treat fractures. Any medical or technical personnel not able to be occupied should be allocated to the operating theatre team.

The pharmacist and his staff will be fully occupied supervising the supply of drugs and dressings to the wards.

Physiotherapists should be allocated to the operating theatre area and fracture areas to assist with splinting, plaster, etc. The senior physiotherapist could be given charge of plaster and splint stocks. In the later post-attack stage, physiotherapists would revert to their normal functions.

Occupational therapists would assist in ward duties.

The senior almoner might be placed in charge of the relatives' inquiry unit.

The more specialized services, such as electrocardiography and X-ray therapy, would be discontinued, and personnel allocated to operating theatres and wards.

Organization of Food Service.

Food service involves: (i) the provision of sufficient reserve food supply; (ii) cooking facilities; (iii) cooking and eating utensils; (iv) auxiliary personnel to serve meals. Food services will have to be provided for the augmented patient population, the normal staff and the auxiliary staff.

Food Supplies.

Reserve food supplies should be maintained sufficient to ration five times normal bed capacity plus five times normal staff for five days. (A suggested scale of emergency rations for 1000 casualties is given in Appendix B.) Emergency food supply should be tinned so as to avoid the necessity for refrigeration.

Cooking Facilities.

In the city normal cooking arrangements will be gas, electricity and steam from the hospital's mains. Any one or all of these services may be absent in the post-attack period. Mention has been made of the possibility of running gas appliances by means of liquid petroleum gas from cylinders. It is unlikely that electricity for cooking would be available from the emergency electrical supply. Steam appliances might be available for limited use.

Such normal supplies as are available would need to be augmented by: (a) special mobile appliances similar to the "Wilea Cooker"; (b) kerosene appliances; (c) large Soyer-type fuel fired boilers (see foreground of Figure II).

Utensils.

A sufficient stock of simple cooking and eating utensils should be maintained. A three-compartment plate of stamped metal would be suitable. A similar disposable unit is also available from American sources.

Personnel.

Auxiliary personnel would have to be provided for food services, and the training of hospital auxiliary personnel in the pre-attack period should include training in food service. In the immediate post-attack period, single-course meals should be organized. It is probable that facilities would permit the serving of only two formal meals per day.

Organization of Housekeeping and Laundry Services.

Voluntary aides would have to play a large part in the augmented housekeeping and laundry services. In the immediate post-attack period, a heavy strain would fall upon the laundry and linen service from both ward areas and operating theatres. Ward linen would have to be severely rationed. Disposable paper items should be substituted wherever possible. Ironing would be discontinued, except where its use presented the quickest available method of drying. Severe rationing of water would require modification of methods, with re-use of water and limited rinsing.

Limitations of steam and electricity might well demand reversion to primitive washing methods—coppers, tubs and open-air drying. For both washing and cooking, the Soyer stove of the Crimean era would be a valuable standby.

Linen service should be on an "imprest" system, the service visiting ward areas, etc., and meeting their requirements as far as supplies will allow.

Cleaning would be in abeyance during the immediate post-attack period, but would need to be resumed as soon as possible. Here, again, the services of semi-trained and untrained volunteers should be utilized as far as possible.

Auxiliary Personnel.

To meet the staff requirements, hospitals will have to recruit and train auxiliary personnel such as nurses living in its area, nursing aides, volunteers for clerical service, and for dietary and cleaning services, etc., and juveniles to act as messengers, recorders, etc.

Trained Nurses.

Every hospital will have, living within its area, a considerable pool of trained nurses, the majority of whom are no longer in active practice. These should be contacted through the Press, radio, etc., and enrolled in an auxiliary service. They should be given special lectures to bring them up to date in therapy and the special problems of disaster nursing.

Nursing Aides.

It is probable that women trained by the St. John Ambulance Brigade and the Red Cross would be required for work at first-aid stations. Hospitals should recruit and train their own volunteer aid detachment, and instruct them in the principles of basic nursing. The single working girl in the younger age group would probably respond to an appeal for volunteers for this work.

Clerical and Dietary Services, etc.

Ladies in the hospital's present auxiliary might be asked to organize this work. Visits to the hospital to study food service should be arranged.

Juveniles as Messengers.

Recognizing that every able-bodied adult will have a task in the post-attack period, American civil defence authorities have organized juveniles into a medical messenger service. It is considered that suitable children of high-school age could well be trained as messengers, and for certain simple clerical duties in the hospital, thus releasing adults for tasks where their services would be more usefully employed.

The availability of suitable auxiliary personnel, should a need arise, will depend upon: (i) recruitment by means of suitable publicity campaigns at the appropriate time; (ii) organization of training programmes and allocation for service within the hospital's emergency organization; (iii) publication by the central civil defence authority of suitable training manuals, training programmes, and possibly training films; (iv) practice by means of mock situations to give all staff a better concept of their function in an emergency.

Special Problems.

Fire.

Every possible preparation must be made to minimize the risk and to prevent the spread of fire. All curtains and other unnecessary inflammable furnishings must be removed. All inflammable liquids and oxygen must be stored well away from patient areas.

Fire-fighting appliances should be reviewed in the knowledge that normal hydrants are not to be relied upon. Provision of a small mobile fire pump capable of utilizing emergency water supply should be considered. Extinguishers should be augmented by the provision of water and sand buckets and fire beaters.

Staff should be drilled regularly in the use of fire appliances and in rescue methods. A fire patrol and maintenance section directed by the chief engineer should function at least during the first six hours of the post-attack period. Fires might start due to breakdown of

services apart from those which might have been started by the initial flash.

It does not seem probable that extensive protection from blast will be practicable on the scale required to make any material difference.

Provision for Emergency Repairs.

A number of large tarpaulins of the type of fire service salvage sheets should be provided. All trades should have the necessary stocks to effect urgent repairs to water and steam and electrical reticulation.

Radiation Monitoring.

This will almost certainly be provided by the civil defence authority. A case could be advanced, however, for the training of selected hospital personnel in the use of simple monitoring equipment, and for the storage of a few pocket dosimeters and a radiac meter at selected hospitals.

Decontamination of Patients and Staff.

It seems that survivors in the immediate post-attack period are unlikely to be contaminated with radioactive material. Any decontamination of the hospital area made necessary by "fall out" would have to be in the hands of civil defence decontamination squads.

Emergency Functions of Administrative and Accounting Sections.

The senior non-medical administrative officers will be fully occupied with the functions of liaison with the civil defence organization, the requisition of emergency equipment and stores, and the supervision of casualty records, including keeping records of discharges and deaths and forwarding information to the civil defence central bureau and the local information office.

Information and Inquiry Office.

It is essential that the hospital set up its own information office, away from patient areas, where relatives seeking information may be directed. In the immediate post-attack periods it will be essential to exclude all visitors from patient areas, otherwise the work of the hospital would be brought to a standstill by distraught people wandering through wards searching for missing relatives.

Internal Security and Traffic Control.

Suitable officers from the administrative staff should be chosen to control traffic in and out of the hospital, both legitimate traffic conveying patients to the hospital and also persons seeking to gain admittance for other reasons.

Female administrative personnel whose services are not required in the emergency administrative pattern could be allocated to emergency wards to assist as ward clerks or in active nursing functions. If the latter is contemplated, they should attend classes for nursing aides organized by the hospital.

Necessity of Flexibility—Alternative Plans.

Because of the possibility that the hospital might be partially damaged, or so damaged as to be beyond use, it is important that planning be flexible, and should include: (i) alternative plans allowing for any particular section being damaged; (ii) a plan to move surviving personnel and patients and usable equipment to an alternative site in the event of the hospital being unusable; (iii) plans to detach surgical and first-aid teams to serve in areas closer to the disaster area; (iv) plans to allow for the release of personnel to other hospitals; (v) plans to assimilate and use the services of personnel from other hospitals if necessary.

It could be that hospitals in the centre of a prospective target area might be required to pack up their equipment and set up in an improvised area outside the target area during a time of "strategic warning". Alternatively, it might be required to detach a proportion of its equipment and personnel for such a purpose.

Supplies of Blood for Transfusion.

It is highly improbable that any peace-time central blood-bank organization could cope with the sudden demands for blood in the post-attack period, even if it survived the attack. It is desirable that each hospital should be in a position to be self reliant in the matter of blood collection in the immediate post-attack period. This would mean the registration of donors during the period of "strategic warning", or the compilation of a register of central blood-bank donors resident in the area, and also the provision of equipment for blood taking and short-term storage.

Blood-bank functions, including taking blood from donors when necessary, would be a function of the pathologist, assisted by resident medical staff and trained nursing personnel.

Emergency Hospital Medical Record		
Last Name	First Name	Initial
Identification (Emergency Medical Tag Number)		
Sex:		Date:
Home Address		
Received at (Name and location of Medical Unit)		
Date:		
Source of Admission		
Diagnosis and Treatment and Clinical Notes		
Disposal		
Date:		
Signature		M. D.
		Date:
		M. D.
		M. D.

INSTRUCTIONS

1. Used as a brief progressive clinical record of a civil disaster patient admitted to an emergency hospital.
2. Initiated at the first hospital to which patient is admitted.
3. Transferred with the patient to successive hospitals.
4. When the patient is moved from one hospital to another, enclose the Emergency Hospital Medical Record Jacket along with other medical records; jacket is attached to patient during transport.
5. This record closed upon completion of treatment for the current course of admission.
6. If one card is inadequate, continue record on a second card, or a third card, etc., marking the cards as first card, second card, etc. Each additional card or other record must bear complete identification of the individual.
7. When this record is closed, it and all other pertinent medical records will be forwarded to a central office of record designated by a provincial authority.

EMERGENCY HOSPITAL MEDICAL RECORD (Folding Form)

FIGURE V.

Emergency medical record (from "Civil Defence Health Services Manual", Canadian Department of National Health and Welfare).

Casualty Medical Records.

Records will require to have the following features: (i) they should be simple, containing the minimal essential information; (ii) the patient's casualty record should remain at all times attached to the patient or his cot for identification and ease of recording progress, etc.

The hospital record could well consist of a folding sheet of light card such as the field medical card issued by the British Medical Service in the 1939-1945 War. The record devised by the Canadian Civil Defence Service is of this type (Figure V). The folded record fits into a stout envelope, which is attached to the patient.

In addition to the patient's record, the hospital will require an index and information card (Figure VI) for

its own records and information service. This card is completed in triplicate, copies being sent to the central information bureau and the senior medical officer. The original remains in the hospital, and constitutes the hospital's admission register.

In addition, it will be necessary to maintain a discharge book or disposition log showing all discharges, transfers and deaths (see Figure VII).

Mortuary Service.

The hospital would have to provide temporary mortuary accommodation for its own patients dying after admission. Hospitals should not be expected to take any

1. Last name	First	Middle	2. Hosp.	Bldg.	Room
3. Home address			4. E.M. Tag No.		
5. Date of Birth		6. Religion		7. Sex	
8. Name, address and relationship of next of kin					
9. Person to be notified about emergency (Name, address and telephone number)					
10. Source of admission			11. Date admitted A.M. P.M.		
12. Admitted for (one or more)					
Shock <input type="checkbox"/> Haemorrhage <input type="checkbox"/> Mech. <input type="checkbox"/> Burns <input type="checkbox"/> Radio <input type="checkbox"/> Other <input type="checkbox"/>					
13. Disposition of case Dead <input type="checkbox"/> Transferred to _____					
14. Date and hour discharged					

INDEX AND INFORMATION CARD
(Actual size 3" x 5")

FIGURE VI.

Index and information card (from "Civil Defence Health Services Manual", Canadian Department of National Health and Welfare).

part in the arrangement of mortuary accommodation for those killed in the initial blast or those dying before arrival at the hospital.

To provide for the deaths occurring amongst its own expanded patient population, the hospital will need considerably expanded mortuary accommodation. A

HOSPITAL DISPOSITION LOG						
Page No. _____						Date (Name the Month)
(No. serially each day 12:01 A.M. to 12:00 midnight)						
Name or designation of hospital						
Number	Casualty Tag No.	Name	Personal Identification	Diagnosis (Brief)	Disposition To: Place, Unit or Person	Hour
1.						
2.						
3.						
4.						
5.						
6.						
7.						

FIGURE VII.

Hospital disposition log (from "Civil Defence Health Services Manual", Canadian Department of National Health and Welfare).

hospital of 200 beds is likely to have body cabinets for no more than six. If such a hospital received 1000 casualties, 100 bodies might have to be accommodated in the first 48 hours of the post-attack period.

Most hospitals have a post-mortem room adjacent to the mortuary proper, and this room could be used for body storage. If the bodies of the first persons dying could be left on the "litter cots" or stretchers, these could be stacked five high, and considerable accommodation provided in the post-mortem room. If more space is then required, buildings adjacent to the mortuary, but unsuitable for other hospital use, might be requisitioned. A screened-off open area behind the mortuary might need to be utilized temporarily.

Summary.

1. Over-all planning to meet the needs of civil defence must necessarily contain much that is conjectural.
2. The main problems confronting the administration of an individual hospital are discussed.
3. A functional organization to meet the needs of the post-attack period is considered, and suggestions are made on staffing and the allocation of accommodation.
4. Means of obtaining accommodation for casualties beyond normal bed capacity are outlined.
5. Estimates of equipment and supplies are detailed.
6. Means are suggested of assuring an emergency supply of water, fuel, light and power.
7. Certain administrative problems associated with the post-attack period are considered.
8. The necessity of maximum flexibility in all planning is stressed.
9. An estimate is given of a suitable emergency stock of drugs, dressings and instruments that should be held by a hospital of about 200 beds to enable it to deal with 1000 casualties (modified from the "Canadian Civil Defence Health Services Manual").

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In gratefully acknowledging the help received, I would like to make it clear that this paper does not purport to represent the official views of the various departments whose officers have afforded me such generous assistance.

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Appendix A

Estimated Medical Supplies and Equipment Required for the Emergency Medical Care of 1000 Casualties.

This scale is based on that of the Canadian Health Department, modified to include equipment of transfusion, additional instruments for major cranial, thoracic and bone surgery, and other items from lists of equipment used by Australian Army Medical Services in the 1939-45 war. This scale is to be regarded as supplementary to the peace-time inventory and stocks of a 200 bed hospital.

Part I.

	Recommended quantity
Alcohol, 70%	8 gallons
"Pentothal sodium" ampoules, 1.0 gramme—25's, with 20 c.cm. ampoules of water	12
Tab. Pentobarbital (1.5 grain) 1000's	10
Sulfadiazine tablets, 0.5 gramme (7.5 grains) 1000's	10
Benzalkonium chloride solution, concentrate, 10%, 4 oz.	12
Benzalkonium chloride tincture, concentrate, 10%, 4 oz.	12
"Aureomycin hydrochloride", 0.25 gramme (4 grains) 100's	12
Ether (1 lb. bottles)	100
Chloramphenicol, 0.25 gramme (4 grains) 100's ("Chloromycetin")	30
Morphine, "Syrettes" 0.25 grain	3000
Streptomycin, 1 gramme ("Viules")	400
Procaine penicillin, 300 000 units ("Syrettes" or "Viules")	7000
Bandage, cotton, elastic, 3 inches by 5.5 yards, 12's	140
Bandage, cotton, elastic, 6 inches by 5.5 yards, 12's	140
Bandage, gauze, roller, 2 inches by 6 yards, 12's	20
Bandage, gauze, roller, 3 inches by 10 yards, 12's	96
Bandage, gauze, roller, 4 inches by 10 yards, 12's	120
Bandage, muslin, triangular, compressed, 37 by 37 by 52 inches	500
Bandage, plaster of Paris, 4 inches by 5 yards, 12's	50
Bandage, plaster of Paris, 6 inches by 5 yards, 12's	100
Hydrocortisone sodium succinate ampoules, 100 mgm.	50
Cellulose, absorbent, 2 pounds, or cotton absorbent	100
Dressing, first aid, large	1800
Dressing, first aid, small	1152
Gauze, plain, 36 inches by 25 yards	15
Gauze, plain, 36 inches by 100 yards	21
Gauze, plain, 36 inches by 1 yard	25
Nikethamide	12 ampoules
Mask, anæsthetic (Bellamy-Gardiner)	6 adult, 4 child
Plaster, adhesive, surgical 3 inches by 5 yards	100
Sponge, surgical, 2 by 2 inches, 100's	50
Sponge, surgical, 4 by 4 inches, 200's	100
Sponge, surgical, 4 by 8 inches, 100's	50
Stockinet, 3 inches by 25 yards	6
Stockinet, 6 inches by 25 yards	6
Stockinet, 10 inches by 25 yards	12
Wadding, sheet, cotton, 5 inches by 6 yards, 12's	50
Buckle, splint webbing, 1 inch, 144's	1
Buckle, splint webbing, 1.5 inch, 144's	1

Recommended quantity

Needle, hypodermic, 20 gauge, 1.5 inch, 12's (short bevel)	50
Needle, hypodermic, 16 gauge, 4 inch, with silette, 12's	2
Splint, leg, Thomas, complete	50
Splint, 3.5 by 31 inches, Kramer	300
Syringe, 50 c.cm. glass, Luer slip, graduated to 1 c.cm. metal adaptor	6
Syringe, Luer, 20 c.cm.	75
Webbing, splint, 1 inch (1 yard)	100
Webbing, splint, 1.5 inch (1 yard)	100
Stretcher, straight (military type or "litter cot")	150
Cellulose dressing, gauze facing, medium (new item developed for the treatment of burns)	1200
Cellulose dressing, gauze facing, large (new item developed for the treatment of burns)	600
Catheter, 18F	12
Catheter, 12F	4
Catheter, depezzor, size 24	6
Plaster cutters	3
A.T.S. ("Syrettes") 1500 I.U.	1000
Tetanus toxoid (formalinized) 1 c.cm.	100
Tube, tracheotomy, large, adult	6
Tube, tracheotomy, child	6
Tab. sodium chloride, 40 grains	1000
Eye bath, plastic	100
Brush, nail	50
Tablets (or "Viules") procaine and adrenaline	200
Rubber tubing, 0.25 inch size	100 ft.
Gloves, surgical, sizes 6½, 7, 7½	200
Suture, catgut, plain, Nos. 0, 1 and 2, with needle (Mayo Type No. 2)	100 of each size
Sets of linen for theatre setting	50 sets
Anæsthetic rolls	50
Oxygen cylinders (110 gallons)	20

Part II.

Twenty-five sets of instruments for first aid (in wards and emergency operating theatres) containing the following:

	Recommended quantity
Forceps, tissue, smooth, 5.5-inch	1
Forceps, tissue, 1 x 2 teeth, 5.5-inch	1
Forceps, dress straight Cushing	4
Forceps, hemostatic straight Kelly or Spencer Wells, 5.5-inch	6
Forceps, hemostatic curved	6
Holder, needle, Hegar-Mayo, 7-inch	2
Blade, operating knife, No. 10, 6's, package	4
Handle, operating knife, No. 3, each	4
Needle, hypodermic, 20 gauge, 1.5 inch, 12's, box	1
Needle, suture, catgut, Mayo, 1-2 c tap., size 1, 6's, package	4
Needle, suture, catgut, Mayo, 1-2 c tap., size 2, 6's, package	4
Needle, suture, catgut, Mayo, 1-2 c tap., size 3, 6's, package	4
Needle, suture, catgut, Mayo, 1-2 c tap., size 4, 6's, package	4
Probe dissector (Watson Cheyne)	1
Scissors, bandage, Lister, 7.25 inch, each	6
Scissors, dissecting, curved, Mayo, 5.5 inch, each	4
Scissors, dissecting, straight, Mayo, 5.5 inch, each	4
Suture, cotton, size 0, 100 yards, spool	12
Suture, cotton, size 1, 100 yards, spool	12
Suture, silk, braided, size 1, 25 yards, spool	12
Suture, silk, braided, size 0, 25 yards, spool	12
Syringe, Luer, 10 c.cm., each	3
Airway, pharyngeal, hard rubber or metal (adult), each	1
Airway, pharyngeal, hard rubber or metal, (child), each	1
Retractor, general operating, nested, one 8.25 and one 8.5, set	1

	Recommended quantity
Forceps, tongue-holding, Carmalta, 7 inch	1
Mouth gag (Mason-Ackland)	1

Part III.

In addition to the first-aid sets, the following should be included to supplement the normal theatre inventory for major traumatic surgery:

	Recommended quantity
Saws, amputation	2
Retractors, abdominal, large, Sydney Hospital or similar	2 pairs
Retractors, self-retaining, Balfour-Doyen	2
Tubes, tracheotomy, 6 large, 6 medium, 6 small	18
Brace, Hudson's, with starter and set of burrs	1
Trephines	1 set
Saws, Gigli	2
Depressor, dura mater	2
Forceps, skull cutting, De Vilbiss	2
Forceps, rongeur	2
Drills, surgical, with drills 1/16 to 3/8	1
Forceps, lion, Ferguson, 9 inch	2
Periosteal elevator	2
Raspatories, rib	2 pairs
Shears, rib	2
Lung tourniquets, Roberts Nelson	1
Forceps, lung, Duval	2
Aneurysm needles	6
Clamps, intestinal, Doyen, MacCormick or Payr	4
Towel clips, Mayo	20
Forceps, sponge-holding	36
Dental forceps	1 set
Forceps, sterilizer, Cheatle	24
Scissors, cloth cutting, 7 inch to 10 inch	20
Brushes, nail	50
Hair clippers, 00	3 pairs
Safety razors	18
Razor blades	36 pkts.
Tongue depressors, wooden	3000

Part IV.

Infusion equipment:

	Recommended quantity
Human albumin, units of 100 c.c.m. of 25% solution	400
Flasks, 500 c.c.m. polyvidone (dextran or similar substance)	1000
Flasks, 500 c.c.m. dextrose 4% in N/5 saline	1000
Blood-collecting sets, plastic, sterile	1000
Blood-giving sets, plastic, sterile	2000
Needles, intravenous, 18 gauge, 1.5 inch	2500
Cannule, intravenous infusion	50
Blood-typing cards, Eldon	2500
Ampoules, anticoagulant solution (disodium citrate 2.25 grammes, glucose 2.25 grammes, distilled water 75 c.c.m.)	1000
Instrument, roll, venoclysis, sterile	12
Each containing:	
Syringe 2 c.c.m. with 26 gauge 1 inch needle	1
Scalpel, handle and blade	1
Forceps, mosquito, Halstead	3
Aneurysm needle, small	1
Forceps, Spencer Wells, 5 inch	1
Retractor, blunt hook	2
Scissors, iris, pointed	1
Scissors, suture, 5 inch	1
Needles, curved, cutting	1
Cotton, sterile, 12 inch lengths	2
Direct transfusion apparatus, Julian-Smith	3
Stoppers, rubber, for standard flask	1000
Blood transfusion flasks, sterile	500

Part V.

The following metal ware, stainless steel, "Monel Metal", enamelled iron or substitute, should be held for emergency use:

	Recommended quantity
Trays, 18 by 14 by 2 inches	25
Trays, 15 by 11 by 2 inches	25
Bowls, round, 6 inch	50
Bowls, round, 3 inch	50
Funnels, 4 inch	20
Jugs, graduated, 2 pints	25
Jugs, 1 gallon	25
Basins, round, 12 inch	300
Cans, enema, 2 pint	12
Buckets, 3 gallon, galvanized	25
Cans, garbage, galvanized, 12 gallon	25
Trays, kidney, 10 inch	50
Trays, kidney, 6 inch	50
Cups, invalid feeding	100

Part VI.

Miscellaneous emergency ward equipment:

	Recommended quantity
Stoves, paraffin pressure (primus type)	30
Lamps, pressure paraffin (mantle type)	30
Lanterns, electric battery, 6 volts	30
Sterilisers, portable, emergency, for use with primus stoves, with lids, perforated insert tray, and lifters	25
Stands, irrigation and infusion	100
Basin stands, double for 12 inch basin	50
Stoves, Soyer, for wood fuel	20
Tin openers	50
Bottles, infant feeding	50
Soap, hexachlorophene, cakes	1 gross
Assorted sewing needles and thread in kits	25 kits

(If army pattern stretchers are to be used, 1600 light folding trestles should be provided.)

Appendix B.**Emergency Food Stores.**

The following is a list of emergency rations which are suggested for a hospital of about 200 beds, which is expected to cope with 1000 casualties and the necessary additional staff. It is assumed that the emergency rations would be kept in a suitable locked store in the charge of the senior dietitian or caterer, who would be responsible for turning over the emergency stock at specified intervals. It is assumed that the hospital would normally be holding rations sufficient to feed its normal complement for three or four days.

	Recommended quantity
Milk powder, full cream, in sealed drums (approx. 45 lbs.)	12
Sugar, in sealed drums (approx. 45 lbs.)	20
Flour, in sealed drums (approx. 45 lbs.)	12
Rice (approx. 45 lbs.)	12
Meat, pressed beef, etc., in 6 lb. tins	250
Egg pulp, preserved, 4 gallon tins	20
Fruit in 6 lb. tins	200
Dehydrated vegetables in 23 lb. tins	
Potato	24
Peas	6
Beans	6
Carrots	6
Mixed	6
Biscuits in 28 lb. tins	
Unsweetened cracker type	18
Sweet	18
Butter, 1 lb. tins	200
Cheese, lbs.	200
Tea, 112 lb. chests	2
Coffee, prepared powder in sealed half-pound tins	50
Wheatmeal, in drums of approx. 45 lbs.	20
"Marmite", or equivalent, in 1 lb. jars	24
Salt, lbs.	112
Tomato juice, 4 gallon tins	12
Fruit syrups, 4 gallon tins	24

HYDROCORTISONE SNUFF IN THE TREATMENT OF ALLERGIC RHINITIS: A CLINICAL EXPERIMENT AND STATISTICAL SURVEY.

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The introduction of corticosteroid drugs to clinical medicine provided a potent therapeutic weapon in the treatment of allergic disease. During recent years, these drugs have been used as local applications in the treatment of allergic conditions where topical use was possible, and in the last four years there have been several trials to assess the value of these drugs in the treatment of allergic rhinitis by their direct application to the nasal mucosa.

Amongst the earliest observations were those of Dill and Bolstead, who in 1951 reported upon the topical use of cortisone in allergic rhinitis; they found that slightly less than half of their series of patients showed significant improvement.

The first trial of hydrocortisone in a similar manner was conducted by Tuft in 1954. He observed that subjective assessment of results was unreliable, and he adopted objective criteria of improvement, such as direct observation of the nasal mucosa, and the extent of sneezing, rhinorrhoea and nasal obstruction. The experiment was uncontrolled. He found that the intra-nasal use of hydrocortisone suspension was highly effective for the majority of patients suffering from ragweed hay fever, and he also found that those patients had failed to respond adequately to desensitization and antihistaminic therapy.

Rohen confirmed these findings in 1955, using a pure suspension of 20 mgm. of hydrocortisone per ml. of normal saline. He states that the "response of the tissues to hydrocortisone suspension, was most remarkable, changing the entire picture". It was noted that asthma attacks accompanying allergic rhinitis were reduced in frequency and severity.

Foulds and co-workers, in 1955, used powdered hydrocortisone (hydrocortisone snuff) intranasally. This was followed a year later by the experiment of Herxheimer and McAllen, who administered 15 mgm. of hydrocortisone snuff daily to 24 patients suffering from grass-pollen hay fever. This was an uncontrolled experiment, and 23 patients obtained excellent results. All those using the drug throughout the season remained almost completely free of symptoms, and eight who discontinued treatment within three weeks obtained great relief for the rest of the season.

Anderson and Ogden, in 1956, conducted a controlled study of the topical use of prednisolone solution in nasal allergy. None of the patients receiving a placebo showed any definite improvement, subjective or objective. All patients using prednisolone spray reported varying degrees of improvement. Those with polypoidal changes were improved, even though no visible decrease in the size of the polyps occurred. At the end of one week's treatment, there was a decrease in the amount of mucous secretion, and a definite lessening in the percentage of eosinophil cells in the nasal smears. They stressed that their good results depended upon initial saturation with the spray.

Prednisolone snuff was used in the treatment of hay fever by Godfrey, Maunsell and Pearson in 1957. They conducted a controlled trial, and concluded that the "results suggest that daily inhalation of 2 mgm. of prednisolone snuff, is of considerable value in the control of symptoms due to hay fever".

Cotes *et alii* (1956) have shown that the inhalation of 45 mgm. of hydrocortisone powder through the mouth produces an increased urinary excretion of 17-hydroxycorticosteroids, suggesting that hydrocortisone is absorbed systemically when inhaled from a powder spray.

Using 15 mgm. of hydrocortisone powder daily as a snuff divided into three doses, Lake, Logan and Peters (1957) investigated the possibility of hypercortisolemia, and found in a series of 18 patients that no symptoms of this developed. Plasma hydrocortisone levels were determined in two patients and found to be normal. No evidence of infection in the nose occurred during therapy. The series was uncontrolled, and it was concluded that "a sufficient number of excellent and good results was obtained, to indicate that intranasal insufflation of hydrocortisone offers another effective, easily administered form of therapy for the patient with seasonal allergic rhinitis, not controlled by conventional means".

Experimental Procedure.

Following the various reports, it was decided to carry out an experiment at the Allergy Clinic of the Royal Melbourne Hospital, with the use of a larger number of patients than had been used in most of the other series published in the literature, and with at the same time a strict series of controls.

The experimental procedures were carefully planned and the results were subjected to statistical analysis by R.T.L. and the Department of Statistics at the University of Melbourne.

Materials.

The following materials were used in the experiment.

1. "Pabracort". This is a very fine powder of hydrocortisone acetate in a specially prepared snuff base. The resultant powder was so fine that it could be blown easily through a small hole in a gelatine capsule. Ten capsules were supplied in each set with a special insufflator, so that when the capsules were pricked at each end and inserted in the insufflator, the finely divided powder could be blown easily into the nasal cavity by the patient. Each capsule contained 15 mgm. of hydrocortisone acetate, and the contents of one capsule were insufflated by each patient daily in three divided doses.

2. "Cortisanuff" (D.H.A.). This preparation was put up in gelatine capsules known as snuffules, each containing 15 mgm. of hydrocortisone acetate in a micronized lactose base. This quantity supplied sufficient snuff for an average daily treatment in three divided doses. Seven snuffules were supplied in each outfit, and again a special "Cortisanuff" insufflator was included by the manufacturers, so that the medicament could be insufflated into the nose.

3. The control. This was also supplied by D.H.A. in snuffules, and was pure micronized lactose. Instructions were given for this to be used in the same way as the "Cortisanuff".

None of the patients could distinguish one type of capsule from another, and neither the patient nor the medical officers knew which of the three preparations was being used.

4. Each patient was also supplied with a bottle of nasal drops, consisting of 1% ephedrine hydrochloride in isotonic solution, and was instructed to use these 15 minutes before insufflating with the snuff or control preparation, whenever the nose was obstructed at the time of treatment.

Selection of Patients.

Patients were selected who had had recurrent hay fever or perennial hay fever with an added seasonal incidence for a number of years. Each patient was interviewed and examined by the medical officers (R.H.O.D., E.W.,

G.A.M.D.), and as far as possible, the selection was made so that the patients undergoing the experiment were fairly uniform as regards severity and duration of symptoms. Patients were selected from the Allergy Clinic of the Royal Melbourne Hospital, the private practices of the medical officers in the investigating team, and from volunteers in three large firms in Melbourne. In all, 300 people volunteered and were interviewed.

A careful history was obtained, and the patients were examined. For the experiment it was necessary to obtain as uniform a group of patients as possible, which meant that many of the 300 volunteers were not suitable. Eliminations were made on the following grounds: (i) Those diagnosed as not suffering from seasonal hay fever or perennial hay fever with added seasonal incidence. (ii) Those having seasonal or perennial hay fever, but with gross complicating factors such as infective sinusitis, chronic respiratory tract infection, excessive nasal polypi or gross septal deformities. It was found that amongst those patients suffering from perennial hay fever with added seasonal incidence, complications such as these were more frequent than in the group suffering from seasonal hay fever alone. Hence our final selection of volunteers consisted predominantly of the latter group. (iii) Those with very mild seasonal or perennial hay fever with added seasonal incidence, and who were easily relieved by treatment with nasal drops or antihistamines. (iv) Those who appeared to have an excessive functional overlay, and those whom the medical officers considered were unlikely to cooperate fully in carrying out the experiment. (v) Those who had had a course of desensitisation in the last 12 to 18 months.

Finally, 164 patients, consisting of 92 males and 72 females, were selected and completed the experiment. Their ages ranged from 18 years to 56 years. There were 133 patients with seasonal hay fever and 31 patients with perennial hay fever with an added seasonal incidence.

Procedure.

The selected patients were issued by the medical officers with an instruction sheet as follows.

INSTRUCTIONS FOR PATIENTS USING HYDROCORTISONE SNUFF.

1. Use the snuff regularly as directed by printed instructions.
2. If the nostrils are very obstructed and you are unable to obtain sufficient concentration of the snuff from the inhaler, use the decongestant drops about 15 minutes before using the inhaler.
3. On no account use any other form of treatment while you are using the snuff or until you are interviewed and given further instructions by the doctor.
4. Keep a daily record of your condition, especially the NUMBER, SEVERITY, and DURATION of attacks of hay fever, if any. Make sure that you fill in your record slips daily.
5. Make a daily note of any side reactions should such occur.
6. The treatment will take a little time to become effective, so continue to use the snuff for at least five days. If relief from symptoms is obtained in 5 days discontinue treatment until interviewed. If complete relief has not been obtained in 5 days continue to use the snuff until it is finished, and then do not use any other form of treatment until you are interviewed.
7. Continue filling in the daily record after completing the treatment and continue the daily record until told to stop by the doctor.

Each patient was also told verbally to use the snuff as instructed by the pamphlet issued by the manufacturers with each set of material.

The control sets were indistinguishable from the actual sets of "Cortisnuff", except that the controls had a narrow red band round them and the "Cortisnuff" had a blue band. The sets of "Pabracort" were externally different from the "Cortisnuff", but great care was taken to make sure that

the patients issued with "Pabracort" would be unlikely to meet or have any communication with the patients who were issued with the "Cortisnuff" or the control.

Also, each patient was issued with a sheet on which to keep a daily record of symptoms, as in Figure 1.

When the preliminary interviews with the medical officers were completed, and the patients had been issued with the instruction sheets, etc., each patient was then passed to W.R.M. in another room, and there received a set of hydrocortisone snuff or a control set according to a predetermined scheme whereby hydrocortisone snuff or the control were issued alternately. This was recorded on special sheets as in Figure II. A code name was inserted by W.R.M. on these sheets for each particular type of set issued, and thus the medical officers were not aware of which preparation had been used by any particular patient until the results were finally assessed.

The experiment was conducted over a period of approximately eight weeks, during the height of the grass pollen season from the end of October, 1957, to the end of December, 1957. During the first two weeks, the

NAME: _____ Date: _____ From: _____ To: _____

On this form you are requested to keep an accurate record of your health while using Hydrocortisone snuff.

Especially record daily the number, severity and duration of attacks of Hay Fever (if any), also record any side reactions. Please continue with the daily record until interviewed and told to discontinue the recording.

Record as follows for Hay Fever (under heading Relief Obtained):

1. Complete relief.
2. Considerable relief.
3. Some relief.
4. No change.
5. Worse.

Record in columns 1 and 2 daily. Only record in Columns 3, 4, 5 and 6 if any symptoms of Hay Fever or side reactions.

1. Date.	2. Relief Obtained.	3. Number of Attacks.	4. Severity of Attacks.	5. Duration of Attacks.	6. Side Reactions.

FIGURE I.

work was of necessity purely preliminary, and in this period the actual final selection of patients had to be made.

After the initial interviews and examinations were completed, the drugs were then issued by W.R.M. as already described, after which, two weeks later, the patients were seen again by the medical officers. It is to be noted that this is called the first interview under the heading of results on the assessment sheet in Figure II.

To this interview the patient brought his form (Figure I) filled in with the day-to-day record of his response to the treatment. This form was discussed carefully between the patient and the medical officers to ensure the accuracy of the information recorded. Each patient was questioned regarding any symptoms of allergic rhinitis, was examined when necessary, and side reactions were discussed. The medical officers then made a clinical appraisal of all the data presented by the patient, and these findings were recorded on the assessment sheet (Figure II).

The procedure adopted for these records was to work out five possible results of treatment, and to decide into which of these categories each patient belonged. The five categories are shown in Table I.

The second interview for the assessing of results took place two weeks later, i.e., four weeks after the issue of the drugs. The third interview took place two weeks after this.

[illegible]

A total of 492 forms (Figure I) were filled in and returned by the patients. As each form was collected, the patient was interviewed by the medical officers as stated in the preceding paragraphs. The information on these sheets, together with that on the form shown in Figure II, formed the data from which the summaries were prepared ready for statistical analysis by R.T.L.

Results of Treatment.	Medical Officers' Symbol.	Statistician's Score.
Complete relief	+++	4
Considerable relief	++	3
Some relief	+	2
No change	0	1
Worse	—	0

The scores (totalled over three interviews) of individual patients for seasonal hay fever are shown as follows.

"Cortisnuff": 7, 3, 2, 6, 6, 3, 3, 4, 8, 4, 8, 10, 1, 3, 7, 5, 3, 3, 8, 3, 3, 5, 3, 3, 4, 3, 3, 3, 3, 5, 3, 5, 1, 7, 12, 5, 7, 3, 10, 5, 6, 3, 6, 8, 8, 7, 9, 3, 5, 0, 7, 7, 5, 3, 4, 7, 1, 4, 2, 3, 5, 6.

Placebo: 2, 5, 3, 4, 3, 3, 3, 3, 3, 1, 2, 5, 3, 6, 0, 4, 1, 5, 4, 8, 2, 4, 3, 2, 3, 9, 2, 3, 3, 3, 4, 3, 3, 6, 2, 0, 3, 3, 3, 3, 0, 9, 0, 6, 7, 6, 7, 6, 8, 1.

"Pabracort": 4, 9, 9, 0, 8.

"Cortisnuff": 1, 8, 5, 8, 4, 7, 7, 7, 3.

Placebo: 5. 6. 3. 7. 6. 3. 6. 7. 3. 6. 3. 3. 2. 8. 4. 1. 9.

In view of the clinical difference between patients in the two categories—seasonal hay fever and perennial hay fever, with added seasonal incidence—it was decided that the results for the two groups should be analysed separately.

Initial analysis of variance showed that there was an over-all difference between the three treatments, although this was not strongly marked (significant at 5% level; i.e., it is of such a magnitude as would arise purely by chance less than once in twenty times, if there was in fact no difference between the treatments). However, statistically there was no evidence of difference between the two drugs, the major effect being a difference between the drugs as a whole and the placebo. Consequently, the appropriate analysis consisted in combining the results for the "Pabracort" and "Cortisnuff" patients and making the comparison against the placebo patients. The treated group, now combined, consisted of 82 patients, and the placebo group, 51 patients. The analysis of variance is shown in Table II.

Source of Variation.	Degrees of Freedom.	Sum of Squares.	Mean Square.	F. Ratio.
Treatments ..	1	50.1	50.1	8.35
Error	131	786.0	6.0	
Total ..	132	836.1		

Patients in this category did not appear to respond to treatment, on initial analysis, considering the three treatment groups separately—"Pabracort", "Cortisnuff" and placebo. As the difference between "Pabracort" and "Cortisnuff" was itself not significant, it was thought proper again to combine the patients of these groups and to test their results against the placebo patients. This was done, but the result was still inconclusive. The analysis of variance is shown in Table III.

Source of Variation.	Degrees of Freedom.	Sum of Squares.	Mean Squares.	F. Ratio.
Treatment.. ..	1	6.09	6.09	0.91 (n.s.)
Error	29	193.30	6.67	
Total ..	30	199.39		

The mean scores are as follows: "Pabracort" and "Cortisnuff", 5.7 (14 patients); placebo, 4.8 (17 patients); $t = 0.95$, with 29 degrees of freedom, not significant.

It will be noted that the error mean squares from the two categories are comparable (6.0, with 131 degrees of freedom; 6.7, with 29 degrees of freedom), so that the non-significant result in the second case is not attributable to greater variation among patients treated alike. Furthermore, although the mean difference between treated and placebo patients in the second group is only 0.9, the significant difference in the first group (seasonal hay fever) was only 1.3. Consequently, it appears likely that if this difference had been maintained over a larger experiment, the effect would have been significant.

Calculation shows that with the assumed difference and error mean square, an experiment with 120 patients in each of two categories—treated and placebo—would have shown the difference to be significant at the 1% level. That is not to say that such an experiment is certain to yield a positive result, but one should plan an experiment of this magnitude to try to test the effectiveness of the treatment. On the other hand, one might well ask: "If the effect of the treatment is so small as to require an experiment on such a scale in order to demonstrate it adequately, is it proper to claim that the drug is clinically effective for perennial hay fever with added seasonal incidence?"

Side Reactions.

Some patients complained spontaneously of side reactions, and all patients were asked if they suffered any untoward effects from the treatment. These side reactions varied, but the one most frequently encountered was headache. The side reactions have been tabulated in Table IV. The side reactions are of interest for the general picture of the experiment as a whole, but they were not submitted to statistical analysis.

Two patients on the "Pabracort" treatment had such severe reactions in the form of both excessive rhinitis and unbearable headache that they finally had to discontinue treatment after four days. These patients were both highly intelligent people, university graduates, with a strong desire to find the cure for their own seasonal allergic rhinitis, and anxious to complete their part in the experiment. This likewise occurred in two patients on "Cortisnuff"; one had excessive rhinitis and the other complained of severe headache.

TABLE IV.
Side Reactions.

Reactions.	"Pabracort" (25 Patients).	"Cortisnuff" (68 Patients).	Placebo (71 Patients).
Headaches ..	9	9	2
Increased nasal obstruction ..	5	6	0
Increased nasal irritation ..	5	5	1
Epistaxis ..	0	1	0
Itchy eyes ..	0	2	3
Drowsiness ..	0	1	0
Vertigo ..	0	2	1
Dyspnoea ..	0	0	1
Increased asthma ..	0	2	3
Cough ..	1	0	1
Tightness in chest ..	0	0	1
Pain in chest ..	0	0	1
Palpitation of heart ..	0	1	0
Increased pulse rate ..	0	1	0
Nausea ..	0	3	0
Dry mouth, lips and throat ..	2	1	2

Discussion.

As far as was under our control, we kept conditions constant for the three preparations used, but one factor over which we had no control was not constant, i.e., that the insufflator supplied with the "Pabracort" had a rubber bulb attached to the distal end, and by means of this the patients were able to force the fine powder into the nasal cavities, whereas with "Cortisnuff" and the placebo the patients had to insert the insufflator into the nostril, shut the mouth tightly, and draw the powder up into the nasal cavity by their own inspiratory effort. However, there is no evidence in the analysis of the results to suggest that these different techniques had any significant effect on the treatments.

On reviewing the experiment clinically, there was no doubt that in some severe known cases of seasonal allergic rhinitis, both "Pabracort" and "Cortisnuff" gave relief over a part or a whole of the period of the trial. In a small minority of cases, complete relief from seasonal hay fever was obtained over the entire period of the experiment. The clinicians associated with the experiment were left with no doubt that in a number of cases seasonal allergic rhinitis can be controlled by the use of hydrocortisone snuff. Granted the truth of this, the difficulty then arises

how to select these patients, except by the old method of trial and error. Considering the expense of these hydrocortisone preparations, trial and error should not be undertaken lightly. However, our results indicate that hydrocortisone snuff is more likely to be of benefit in some cases of seasonal hay fever rather than in perennial hay fever with added seasonal incidence.

Summary.

A clinical experiment was carried out from the Allergy Clinic at the Royal Melbourne Hospital on the use of hydrocortisone snuff in the treatment of allergic rhinitis. The substances used were "Pabracort", "Cortisnuff" and a placebo of lactose. The experiment was designed and the results were analysed with the collaboration of a statistician. For seasonal hay fever, the analysis showed that "Pabracort" and "Cortisnuff" did not differ in effectiveness, but were significantly better (at the 1% level) than the placebo. For perennial hay fever with added seasonal incidence, "Pabracort" and "Cortisnuff" did not show any significant difference from the placebo.

Acknowledgements.

We wish to thank Professor Maurice Belz for his help and advice, and the staff of the Statistics Department of the University of Melbourne for their work in carrying out the statistical analysis; Mr. C. B. Macgibbon, Chief Pharmacist at the Royal Melbourne Hospital, for his help in obtaining the materials used and for his advice regarding the preparation of the drugs for issue to the patients; the firms who so generously donated our supplies of drugs and the placebo—namely, A. E. Stansen & Co., Melbourne, together with Paines & Byrne Ltd., England, who donated the supply of "Pabracort" and Drug Houses of Australia Pty. Ltd., who supplied the "Cortisnuff" and who made up the placebo for this experiment and donated it to us; the following firms and their medical personnel who cooperated in our search for the best clinical subjects for the experiment—The Myer Emporium Ltd. (Melbourne), General Motors' Holden Ltd. (Melbourne) and the Gas & Fuel Corporation (Melbourne).

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A NOTE ON A CONTROLLED EXPERIMENT USING RESERPINE, AN EXTRACT OF ALSTONIA CONSTRICTA AND PLACEBO.

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As a result of work carried out by the Commonwealth Scientific and Industrial Research Organisation, Division of Industrial Chemistry, it was found that the root bark of *Alstonia constricta* contained reserpine and other sub-

stances which yielded aromatic acids on hydrolysis similar to those obtained from reserpine (Crow and Greet, 1955). Toxicity tests showed that a crude extract was not more toxic than reserpine. Accordingly, a clinical trial was feasible (Shaw, 1956). An experiment was designed to investigate whether the extract (which will be known here as E.A.C.) has an action on patients in mental hospitals similar to that of reserpine. The extract has the obvious advantage that it could be marketed at a fraction of the cost of reserpine.

It is now well established that, in experimental studies of this kind, a response to treatment cannot be attributed *in toto* to the active ingredients of the substance prescribed. The extent to which patient expectation and increased interest and attention from ward personnel contribute to the eventual outcome of treatment can be assessed by the inclusion, in the experimental design, of a control group. The control subjects receive placebo, and, since a double-blind technique is employed whereby staff and patients are unaware of which treatment any particular patient is receiving, the situation in so far as the social therapy of the wards is concerned is similar for all.

It can be argued, then, that the three groups of patients who participated in this experiment each received a form of treatment. Group A received reserpine in two tablets each of one milligramme twice daily, Group B received E.A.C. in a dose of four tablets twice daily (considered, by Shaw, to be the equivalent in pharmacological effect of four milligrammes of reserpine) and Group C, placebo in tablets identical in appearance with those received by Group A and in similar doses. Treatment continued for one month. The dosages were small, and the total number of patients included in the study (30, with 10 in each group) was too small to permit detailed statistical evaluation. The limiting factor was the relatively small quantity of E.A.C. available.

The patients selected for the study were male schizophrenics, predominantly hebephrenic, with an age range of 20 to 60 years. The length of their stay in hospital, but not necessarily of their illness, varied from two to five years, with a mean stay of three years. The study was restricted to patients in two wards, one "open" and one "closed". These two wards provided 15 patients each, who were allocated in equal proportions, using random numbers, to the three treatment groups. The three groups were reasonably well matched with respect to age, the mean ages of the reserpine, E.A.C. and placebo groups being 31.9, 36.0 and 34.3 years respectively.

An off-all-treatment period of two weeks preceded the study to minimize the carry-over effects of previous treatments.

Before and after treatment, all patients were assessed on a psychiatric rating scale developed within the department. The scale includes 21 items, each of which can be scored from zero through three. There is, however, considerable overlap of items, and in the absence of suitable validation studies the scale is not suitable for direct quantification. The scale is a useful guide in assessing the nature and extent of change, more particularly when used, as here, in conjunction with the day-by-day comments of the nursing staff on the ward behaviour of patients. The scale was completed by the authors after an interview with each patient and a detailed discussion of his behaviour with the charge nurse who presented him. The scale included items relating to motor activity, mood, anxiety level, reality testing and memory in addition to items dealing with the patient's social adjustment and his manageability in the ward.

Daily records were kept of patients' pulse rate. Blood pressure was taken before treatment, on alternate days during the first week of treatment and thereafter at weekly intervals. Patients were weighed before treatment and then at weekly intervals.

In addition, arrangements were made, through the Mont Park Neuro-Surgical Unit, for each patient to have an electroencephalographic examination before and after

treatment. This inclusion was made in the light of recent observations which suggest that changes in electroencephalographic tracings are discernible in patients who are receiving tranquillizing drugs and that such changes may be correlated with clinical improvement (Andermann, 1957).

Results.

Patients were classified as improved, doubtful or worse. No patient was classed as improved (or worse) unless the day-by-day nursing notes indicated some fairly definite change for the better (or the worse), and this observation was confirmed by the ratings made on the psychiatric rating scale. Where the evidence was contradictory or inconclusive, the patient was included in the doubtful category. It should be made clear, at the outset, that the changes which did occur were not, in the majority of cases, very dramatic. Typically, the patient who was previously noisy, violent and generally difficult to handle became more cooperative. The withdrawn patient became less solitary, more friendly and more cheerful. Patients who, for one reason or another, had not previously been able to help in ward duties were now able and prepared on occasion to lend a hand.

In the reserpine group, six patients were classified as improved, two as doubtful and two as worse. In the placebo group, five patients improved, and the remaining patients were classified as doubtful. In the E.A.C. group, three only were classed as improved, four as doubtful and the remaining three as worse. There would appear then to be little difference between the improvement rates in the three groups. If anything, E.A.C. would appear to be the least effective. It is possibly worth noting, however, that while a few patients in both of the active treatment groups became worse, there was no indication that this was so among the patients receiving inert tablets. The ratings were made, as far as was possible, independently of side effects.

It was thought that one type of treatment might be more successful in treating a particular variety of disturbance than another, e.g. that one treatment might produce a response in a noisy patient while another might be more successful in the treatment of a withdrawn patient. However, analysis of the changes on each separate item of the scale do not suggest this. When patients show a response, they respond in a similar way (e.g. by becoming more cooperative and/or less withdrawn) irrespective of whether they receive an active substance or an inert one. It would, then, appear probable that the response is a response to a total situation rather than to any specific ingredients of the tablet which is being administered.

While there were, on these dosages, no real differences between the three treatments investigated, as far as therapeutic efficacy was concerned, it is still of considerable interest to note the physiological changes which occurred in patients in the three groups. Pulse rate and systolic and diastolic blood pressures all showed very considerable day-by-day variation, so much so that it was believed that a straight comparison of the recordings before and after treatment could be seriously misleading. It was decided, therefore, to base our judgement on the general trend of the recordings. In this way, it was possible to distinguish a rise, a fall and no change. The rises were, in fact, so infrequently encountered and, when they occurred, so evenly distributed between the three groups that we believe that little purpose would be served by discussing them further. A discussion of the falls may, however, be of interest. Less than a quarter of the patients registered a fall in pulse rate. With one exception, patients who experienced a fall in pulse rate were all receiving either reserpine or E.A.C. A fall in blood pressure, systolic and diastolic, occurred in slightly over one half of the patients in our sample. With systolic blood pressure, falls were equally prevalent in both active treatment groups, but were seldom encountered among those receiving placebo. With diastolic blood pressure, the picture is different. Here, the falls were fairly evenly distributed between all

three treatment groups. It was thought that there might be some relationship between clinical change and reduction in pulse rate and/or systolic or diastolic blood pressure. We were, however, unable to demonstrate any such relationship.

There was an increase in body weight in all three groups, the mean increase in pounds being 7.3, 4.3 and 3.8 for reserpine, E.A.C. and placebo respectively. There was no apparent relationship between weight increase and clinical improvement.

Analysis of the electroencephalographic tracings did yield a statistically significant relationship between clinical improvement and increased alpha activity in the temporal regions. There was, however, no evidence to suggest that reserpine had a specific effect on the electroencephalographic tracings. There was, in fact, as much, if not more, change in those receiving placebo as there was in those receiving reserpine. Where changes occurred in patients given E.A.C., they were invariably in the direction of reduced alpha activity.

Side effects occurred, to a greater or lesser degree, in all patients in the reserpine group, were relatively infrequent in patients in the E.A.C. group, but occurred to a surprising extent in patients receiving placebo. In the reserpine group, the most common side effects were drowsiness (all patients), sore eyes (six patients) and tremors or impaired coordination of movement (four patients). Drowsiness was the only side-effect commonly encountered (five patients) among those receiving E.A.C. In the placebo group, sore eyes were noted in six patients, drowsiness and flushing in four patients each and tremors or weakness in movement in three patients. The side effects in the placebo group are of particular interest in view of the work of Wolf and Pinsky (1954). They were able to demonstrate the appearance of a number of apparently toxic reactions after the administration of placebo.

Conclusions.

The lack of specificity of response to any of the three treatments would suggest that some general factor is operating. It is suggested that this general factor is a response to the total situation in which the patients in all three treatment groups were involved. The period of one month during which the experiment was carried out was one of intense activity for all concerned. The patients were under the close and constant scrutiny of the medical and nursing staff. They were receiving tablets and were interviewed individually. Their pulse rate, blood pressure and body weight were recorded at regular intervals. Electroencephalographic tracings were made. There was a feeling of expectation among both staff and patients that some improvement might or could result. During this period there can be no doubt that the staff took a greater interest in the patients and that the patients received more attention than was usual. These, we believe, were the important ingredients in this particular experiment. It is possible, of course, that with dosages higher than four milligrammes of reserpine or equivalent E.A.C. per day the picture may have been quite different, but this is a question which can only be answered by further and more intensive investigation.

Summary.

1. A group of 30 schizophrenic patients in hospital were randomly allocated to one of three treatment groups and given one of the following, in daily doses, over a period of one month: (i) four milligrammes of reserpine; (ii) extract of *Alistonia constricta* in equivalent doses to four milligrammes of reserpine; (iii) placebo in tablets identical in appearance to reserpine. The double-blind technique was employed.

2. Physiological changes were recorded and psychological changes assessed. Electroencephalographic tracings were made before and after treatment.

3. Irrespective of which treatment was given, clinical improvement occurred. Since improvement, in these dosages and with this sample, did not favour any one particular treatment significantly more than any other, we infer that some general factor was operating. We suggest that the response in all treatment groups was a response to a total situation rather than to any specific ingredients of the tablets administered.

4. The physiological changes would tend to support this thesis in so far as they were almost equally as non-specific as the psychiatric changes: they were inconsistent and occurred in varying degrees in all three groups. While falls in pulse rate and systolic blood pressure were generally found only in patients receiving E.A.C. and reserpine, falls in diastolic blood pressure occurred in patients in all three treatment groups. Weight increases were common in all groups, although most marked in those receiving reserpine. Side effects were reported mainly in the reserpine group, infrequently in the E.A.C. group, but not infrequently in those receiving placebo. Changes in alpha activity in the temporal regions occurred to varying degrees in all groups.

5. A significant association between changes in alpha activity in the temporal regions and clinical change was demonstrated.

6. There is a need to repeat the experiment using higher dosages of reserpine and E.A.C.

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THYROID ¹³¹I CONTENT OF VICTORIAN LAMBS IN RELATION TO NUCLEAR WEAPON TESTS.

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For four years the thyroid ¹³¹I content of sheep and cattle from various parts of the world has been studied in relation to nuclear weapon tests (Van Middlesworth, 1954, 1956; Comar et alii, 1957; Wolff, 1957; French and Van Middlesworth, 1958). Since April, 1957, thyroid glands from Australia have been sent to Tennessee, and the radioiodine content determined. This paper presents the results in Victorian animals compared with those in Tennessee.

Iodine is a major fission product, and most of its isotopes have short half-lives. I^{131} (half-life 8.08 days) emits easily measured gamma rays, and is readily studied in biological systems because it is concentrated in the thyroid gland. It can exist as a gas, and may travel as iodine, iodide or iodate ions; these may be distributed widely, and may be inhaled or ingested by grazing animals after deposition on grass.

Material and Methods.

Each week, thyroid glands were obtained from six unselected lambs (ages ranging from three to 11 months) within an hour of slaughter. These animals were from different areas of Victoria, and may have been hand fed for a variable period before being killed. One thyroid lobe from each animal was dissected out and stored at -10°C . until the date of posting. Every two weeks samples were dusted in paraformaldehyde powder, wrapped in polythene bags and sent in special containers by air mail. Glands were received in Tennessee usually within two weeks of slaughter, rarely not till three weeks after slaughter.

Non-thyroid tissue was trimmed off and the glands weighed, then counted individually and collectively. The counting equipment was a standard 2.5 inch sodium iodide scintillation well crystal. Sensitivity to I^{131} was increased by a low background due to a four-inch lead shield and by counting only the output of the photomultiplier equivalent of 0.32 to 0.40 mev gamma radiation. Occasionally, half-life and gamma spectra were determined to confirm the identity of the isotope.

All specimens were tested twice for I^{131} , and when more than 0.001 μmc per gramme was found the results were accurate to within $\pm 5\%$. Determinations less than 0.001 μmc per gramme were accurate to only $\pm 15\%$ to 40% (1 $\mu\text{mc} = 1 \times 10^{-6}$ curie).

The electronic equipment was stable, with a background of 0.10 count per second (± 0.005 c/s), and one c/s = $14 \times 10^{-3} \mu\text{c } I^{131}$ ($\pm 0.4 \times 10^{-3} \mu\text{c}$). All I^{131} determinations were corrected to the slaughter date.

Results.

In April and May, 1957, there was barely any detectable thyroid I^{131} in Victorian sheep (Figure I), although, at that

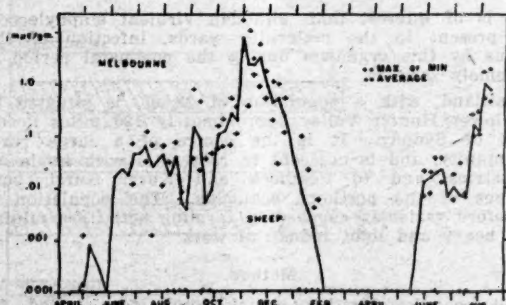


FIGURE I.

I^{131} content of thyroid glands of Victorian lambs, April, 1957, to August, 1958. Note that the ordinate scale is logarithmic.

time, animals in Tennessee contained about 0.1 μmc per gramme. During April, we have been told that there were five Russian nuclear tests; in May there were two continental United States explosions, and on May 15 and 31 explosions occurred at Christmas Island, which is about 4400 miles north-east of Melbourne.¹ On June 5 (three weeks after the first explosion), I^{131} appeared, and

increased three weeks later (June 26). On June 17 and 19, more tests occurred at Christmas Island, and the peak value was reached three weeks later. Activity then slowly declined, but rose thirtyfold in September. The reason for the early September increase is not clear. Continental American tests in July are not thought to be responsible for detectable changes in Victorian animals. Maralinga (Australia) tests occurred on September 14 and 26. Radioiodine content commenced to rise in 11 days, and this was definite in 18 days (October 2); another rise occurred on October 16, three weeks after the second test. On October 9, another test took place at Maralinga, and the peak of activity was reached three weeks later (October 30). Activity then declined, but, despite no further known releases of radioactivity in Australia, there was a reversal of the slope on two occasions, the first three weeks after the peak, and the second three weeks later. These peaks suggest further addition of I^{131} to grazing animals at three-week intervals. Similar but slower frequency polyphasic curves with mixed fission products were observed in the northern hemisphere in 1954, when contamination was low (Blifford and Rosenstock, 1956). The present data may indicate that a mass of isotopes has circled the earth every three weeks. The slope of the decay curve between the peaks is consistent, and represents an effective half-life of five days. Christmas Island tests on November 8 could have caused these peaks, but they represent increases which are 10 to 30 times greater than those of May to July. Samples were not obtained between December 18 and January 8. Had there been a third secondary peak three weeks after the second, it might have fallen near January 1, when samples were not collected.

More tests were reported at Christmas Island on April 28, 1958; three weeks later the thyroid radiiodine content rose in a manner very similar to that of June, 1957, and to the same levels. A number of tests were reported to have occurred at Eniwetok during late May and most of June, 1958, and at Bikini on June 11 and 30. Late in June, the curve of radioactivity of the animals' thyroids flattened out, then rose sharply about four weeks later. More tests were reported in the Pacific in August.

The Victorian figures were compared with those from Tennessee for sheep and cattle (French and Van Middlesworth, 1958). The highest averages in Tennessee were between 10 and 100 μmc per gramme after tests 1300 miles west of Tennessee; the Maralinga tests resulted in similar maxima in Victorian sheep. The effective half-life was five days for Nashville sheep, five days for Victorian lambs and six to eight days for Memphis cattle. When the Victorian activity was low, there was still appreciable activity in the northern hemisphere. This suggests that the northern atmosphere did not mix freely with the southern, that the mixing was so slow that the iodine activity originating in the northern hemisphere had decayed below detectable levels, or that all I^{131} had been deposited before the northern atmosphere reached here. Late in 1954, late in 1955, late in 1956 and early in 1958, Russian tests may have caused an increase in activity in Tennessee cattle and sheep (Comar *et al*, 1957).

Twelve human autopsy thyroid specimens from Victoria were examined for I^{131} content during the period December, 1957, to March, 1958. No more than 1×10^{-6} μmc per gramme was detected.

Discussion.

This method is a sensitive way of detecting fission products from nuclear reactions and provides information about iodine metabolism and the movement of air masses. However, an important question is: How dangerous is the radioactivity so deposited in Victoria? First, these data give no direct information on other fission products. Secondly, sheep and cattle thyroid glands collect much more radioactivity than human thyroids. Studies on different animals suggest that ingestion is the major source of I^{131} , and humans probably get most of their I^{131} from inhalation. Human autopsy glands studied here and in Tennessee (Figure II) contained very little or no activity. Studies

¹ The dates and locations of nuclear explosions mentioned in the text are those released to the Press. It is obvious that these may not be accurate or complete.

on sheep suggest that 100 μC per gramme for life (Bustad *et al.*, 1957) would produce no known biological effects; the maximum observed in this study was 17.8 μC per gramme, with an average peak of 8.67 μC per gramme. These levels may be compared with those attained in the human thyroid after I^{131} tracer tests. If there is a 50 gramme thyroid gland and a 20 μC dose, then, when the uptake of I^{131} is 40% (normal in Victoria), the thyroid will contain about 160 μC of I^{131} per gramme. For simplicity, the decay of the isotope is ignored in this calculation.

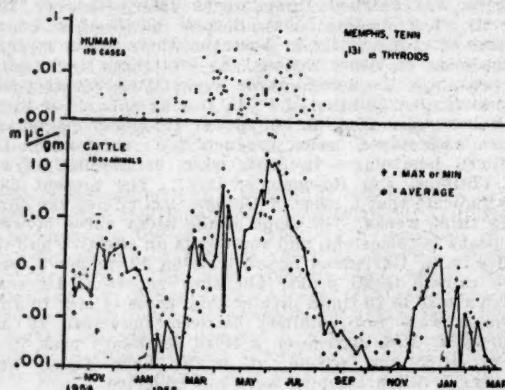


FIGURE II.

I^{131} content of thyroid glands of humans and cattle from Tennessee, November, 1954, to March, 1956. Note the lower I^{131} content of human thyroids, and the similarity of the values of Tennessee cattle in 1955 and Victorian lambs in 1957. (Reproduced from Van Middlesworth, L., *Science*, 123 (1956): 982.)

A detailed study of the I^{131} content of thyroid glands of sheep and cattle from many parts of Australia has just been published (Marston, 1958). Marston's studies were done in 1956, prior to our observations, yet his results are substantially in agreement with ours, though the maximum values recorded by him reached 70 μC per gramme. Marston found an uneven contamination of the ground after nuclear explosions, and also stated that very little, if any, I^{131} reached the thyroid via the lungs.

Summary.

1. The radioactive content of sheep thyroid glands has been followed over a 16 months' period.
2. No radioactivity was found at the beginning of the observations.
3. Christmas Island explosions 4400 miles away were associated with a slight but definite increase in the radioactive content of animal thyroids.
4. The Maralinga tests 1000 miles away caused an easily detectable amount of I^{131} in the thyroid glands of lambs.
5. No radioactivity was detectable in animal thyroids three months after the last Maralinga test.

Acknowledgements.

We wish to thank the slaughtermen at the Flemington abattoirs for their cheerful cooperation, and Mr. Godfrey Greene, librarian of *The Age*, Melbourne, for supplying the data on the dates and places of nuclear weapon tests. This investigation was supported in part by a grant from the U.S. Atomic Energy Commission.

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STAPHYLOCOCCUS AUREUS IN A RURAL AREA OF N.S.W.

By G. R. SIPPE,

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THE *Staphylococcus aureus* has been the subject of intensive studies, particularly in relation to the emergence of antibiotic-resistant strains. Such investigations have, however, been largely confined to the metropolitan hospitals.

In view of the widespread distribution of this organism, and of its importance both in general practice and in hospital cross-infection, it seemed desirable that an investigation into its occurrence and antibiotic sensitivity should also be undertaken in a country area of New South Wales. This study, which has been made at the Maitland Hospital, was carried out between January, 1956, and January, 1958, and is based on the findings in 550 consecutive subjects from whom coagulase-positive staphylococci have been isolated. It includes nurses and hospital in-patients and out-patients living, for the most part, in the Maitland district.

The majority (71%) of the cultures were from skin infections, usually furunculosis. Of the remaining conditions, post-operative infection of wounds and infection of burns were the commonest (39 cases, or 7.1%). Chronic otorrhoea, respiratory infections, and infections of the eye, urinary tract, vagina and paranasal sinuses were responsible for the remaining cases.

It is of interest that, although virulent staphylococci are present in the maternity wards, infection of the uterus by this organism during the post-natal period is extremely rare.

Maitland, with a population of 22,000, is situated in the lower Hunter Valley approximately 120 miles north-west of Sydney. It is the centre of a large rural community, and is adjacent to Newcastle with its heavy industries, and to Cessnock and Kurri Kurri, both centres of the northern coalfields. The population is therefore variously engaged in farming activities, mining and heavy and light industrial work.

Method.

All coagulase-positive staphylococci were tested for antibiotic sensitivity by the impregnated disk method (Ungar, 1951), the concentrations being those recommended by the author. The use of erythromycin (10 μg . per disk) was commenced later in the series.

Organisms were regarded as sensitive to the antibiotic under test if inhibition of growth was 50% or more than that shown by the standard B313 strain, which was used as a control in all instances.

Phage-typing of a small, unselected series during the first nine months of the investigation was kindly carried out by Dr. Phyllis Rountree, of the Fairfax Institute of Pathology, Royal Prince Alfred Hospital, Sydney.

Results.

The results were as set out in Table I.

Penicillin.

Only one-quarter of all strains of staphylococci isolated in this area are sensitive to penicillin. If unnecessary expense and ineffective treatment, particularly in severe infections endangering life, are therefore to be avoided, its use should be limited to those cases in which the organism has been shown to be sensitive to this drug.

A male patient, aged 32 years, was admitted to hospital severely ill with a staphylococcal infection of the lip. He was treated with penicillin, but his condition rapidly deteriorated, and he died from staphylococcal septicaemia and metastatic abscess formation. The organism was resistant to penicillin.

TABLE I.
Percentage of Sensitive Strains of Staphylococci.

Antibiotic.	In-Patients.	Out-Patients.	Total.
Penicillin	22.3	30.0	25.6
"Terramycin"	72.2	84.3	77.4
Streptomycin	87.9	89.4	88.5
Chloramphenicol .. .	93.9	94.4	94.1
Total number of subjects	314	236	550
Erythromycin: 278 subjects	95.7	95.6	95.6

In this series, of 414 patients interviewed, 90 had been treated with penicillin prior to the cultures being made; yet in only 13 instances was the organism found to be fully sensitive to this antibiotic. Cultures from out-patients, as compared with in-patients, showed a small, although statistically significant, increase in the per-

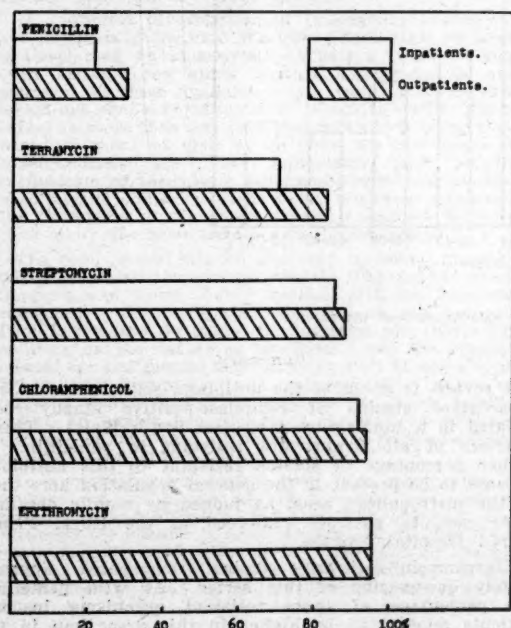


FIGURE I.

Graph showing percentage of antibiotic-sensitive strains from in-patients and out-patients.

centage of penicillin-sensitive strains. As might be expected, such strains are unusual in the nursing staff, and from 35 nurses, mostly with recurrent boils, only two (6%) cultures sensitive to penicillin were obtained. Also, from 33 patients with burns and with operation

wounds infected during their stay in hospital, only four strains were inhibited by this antibiotic.

Figures from the Royal Prince Alfred Hospital, Sydney (Dr. Phyllis Rountree, personal communication), for the 12 months ended August, 1957, whilst agreeing closely with mine for the in-patient group, show a wide discrepancy for strains isolated from patients attending the casualty department (30% and 50.7% respectively). This may suggest, rather surprisingly, a much higher incidence of infections by the virulent 80/81 strains amongst the general public here than in the metropolitan area. However, it is possible that some selection has taken place, and that in this area there is a tendency to refer patients for culture and sensitivity tests only after penicillin has been tried and failed.

"Terramycin."

The numbers of "Terramycin"-sensitive strains isolated from in-patients were almost identical in my series and in the Royal Prince Alfred Hospital group (72.2% and 73.0%). Staphylococci from 26 of the 35 nurses (74%) were also found to be sensitive to this antibiotic.

However, as with penicillin, there are considerably more "Terramycin"-resistant strains in the out-patient group here than in Dr. Rountree's series from the casualty department (15.7% and 3.2%). Whilst this might indicate a more exuberant use of "Terramycin" in this area, such does not appear to be the case, as from only 15 of the 414 patients interviewed was a history of previous "Terramycin" therapy obtained. It does seem likely, therefore, that the 80/81 phage type is more widespread in the Hunter Valley than in the metropolitan area.

The figures for "Achromycin" appear to be very similar to those pertaining to "Terramycin". However, since diffusion from the disk is occasionally unsatisfactory, the results have not been included in this study.

In this area, therefore, "Terramycin", as judged by the sensitivity tests, will be effective in three-quarters of staphylococcal infections in in-patients, whilst the prospects for out-patients are somewhat better (84.3%).

Streptomycin, Chloramphenicol and Erythromycin

As can be seen from Table I, these antibiotics continue to be highly effective in the treatment of staphylococcal infections in both in-patients and out-patients in this area. It is of significance that these antibiotics do not appear to be commonly used here in the routine treatment of such infections, chloramphenicol (23 cases—5%) being the commonest.

The importance of restricting the use of these drugs is shown by Rountree's (1956) observation that "the number of chloramphenicol resistant strains doubled in twelve months and can be correlated with increased use of this antibiotic".

We have not, as yet, acquired the streptomycin-resistant strain present at Royal Prince Alfred Hospital, where only 59.4% of the cultures from in-patients were sensitive to this antibiotic, as compared with 94.6% of the strains obtained from patients attending the casualty department.

Only three (0.5%) strains in this series were resistant to the four antibiotics, penicillin, streptomycin, "Terramycin" and chloramphenicol, although in Rountree's (1955) series 6.8% of 1398 in-patients' cultures were so resistant. However, 105 (19%) of the 550 strains were fully sensitive to all the antibiotics tested.

Erythromycin is usually prescribed in this area only after consultation with a member of the laboratory staff and when the results of the sensitivity tests are available. Its use is therefore restricted on a voluntary basis, and none of the patients from whom erythromycin-resistant staphylococci were obtained had been given this antibiotic previously. Of the 12 strains reported as insensitive, only three were completely so, the remaining nine showing some restriction of growth in the region of the disk.

Phage Typing.

Forty-three unselected cultures from out-patients, in-patients and nurses were referred to Dr. Rountree for phage typing. The fact that 31 (72%) were found to be of the 80/81 strain suggests that this type is well entrenched in the Hunter Valley. All 31 cultures were insensitive to penicillin, whilst three (10%), nine (29%) and 13 (42%) were insensitive to chloramphenicol, streptomycin and "Terramycin" respectively.

Age Distribution.

Neonatal infections, which occurred whilst the babies were still in the hospital nursery, are mainly responsible for the high incidence of infection during the first year of life (Figure II). This represents approximately one case per week. However, many of these babies had only small or single pustules, which would often be

No significant difference was found in the number of in-patients and out-patients from whose swabs staphylococci were cultured (54% and 58% respectively). However, exclusion of the neonatal group does result in a significantly lower carrier rate amongst hospital patients (44%). This may, I believe, be correlated with the fact that out-patients are frequently seen only after they have been suffering from recurrent boils for some considerable time, the nasal infections being either *post hoc* or *propter hoc*.

On the other hand, it seems likely that many furuncles or infected wounds in in-patients will be commonly due to infection acquired from carriers amongst the nursing staff, and swabs may be taken before colonization of the nares has occurred.

No significant difference was found in the carrier rate in females (49%) and males (42%).

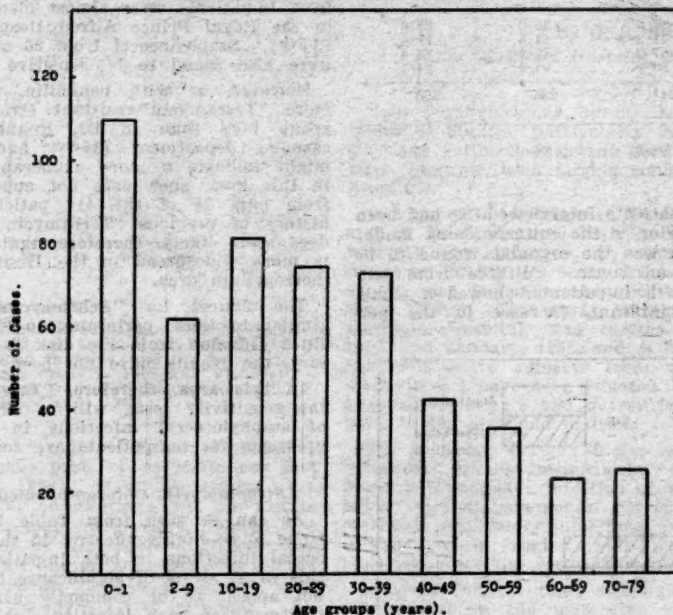


FIGURE II.

Graph showing age distribution of staphylococcal infections.

unnoticed except that it is our practice, as a prophylactic measure against a return of the previous severe infections in the nursery, to take and culture swabbings from all infected lesions, however small they may be.

The slight increase in the number of infections in subjects between the ages of 15 and 34 years is due mainly to infections amongst the nurses and mothers in the obstetric ward.

Nasal Carriers.

The importance of the nasal carrier of staphylococci as regards both autogenous reinfection and hospital cross-infection, particularly during the neonatal period, is now well established. Thus Clarke and others (1956) showed that a considerable reduction in the number of babies suffering from staphylococcal infection of the skin followed treatment of nasal carriers amongst the nursing staff.

Nasal swabs were obtained from 259 patients, staphylococci being isolated in 144 (55%) instances. Of 40 babies examined, 27 (67%) yielded *Staphylococcus aureus*. This is in agreement with the findings of previous workers in this field—namely, that babies quickly acquire this organism in their nostrils in hospital nurseries (Rountree and Barbour, 1950; Cook and others, 1953).

Summary.

A review is given of the antibiotic sensitivities of 550 consecutive strains of coagulase-positive staphylococci isolated in a country town of New South Wales. Three-quarters of all strains are resistant to penicillin. A higher percentage of strains resistant to this antibiotic appears to be present in the general population here than in the metropolitan area, as judged by results obtained from casualty patients examined at the Royal Prince Alfred Hospital, Sydney.

"Terramycin"-resistant strains represented approximately one-quarter of this series. As with penicillin, the percentage of these resistant organisms in out-patients appears to be higher in this area than in the metropolitan area. The results for "Achromycin" appear to be similar to those for "Terramycin".

Resistance to streptomycin, chloramphenicol and erythromycin is unusual in both in-patients and out-patients in this area.

The significance and frequency of nasal carriers are discussed.

The age distribution curve shows an increase during the neonatal period, and also in the age group 15 to 34 years.

Acknowledgements.

I wish to acknowledge with thanks the advice and help received from Dr. Phyllis Rountree, and from the members of the staff of the Maitland Hospital.

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Reviews.

The Measurement and Appraisal of Adult Intelligence. By David Wechsler; Fourth Edition; 1958. Baltimore: The Williams and Wilkins Company. 9" x 6", pp. 314, with illustrations. Price: 55s.

DAVID WECHSLER's monograph on intelligence testing has become the standard manual on the subject. The preliminary population sampling, sorting and standardization of items for this require uncommon assiduity and patience. Recently, Wechsler has done this better than anyone; so it is not surprising that his manual has been reprinted almost annually, and is now the most used source of information for the appraisal of human intelligence.

If a clinical investigation of intelligence requires detail and precision of the kind Wechsler offers, then his laborious methods may be appropriate. Whether they are good or even suitable for quick routine assessment is another matter. We have available single tests, such as Raven's, which are simple to administer. Wechsler's work has application in more than one field; but when it is being reviewed from the point of view of its value for the doctor, these considerations are most important. The proprietary enthusiasm of the young lay psychologist now working in hospital and clinic has made many clinicians wonder about the usefulness of the quotients and comments he provides. How many Wechsler tests are really necessary?

The book is well written and easy to follow, though it is not a book for the general reader. The author gives the impression of being unduly familiar with the American, as compared with the European, work on the subject. In Part I, the first 60 pages, he discusses ably some current opinions on the nature of intelligence and the concepts of mental age and mental deficiency. In Part II, some 90 pages, Wechsler describes his tests and devotes 20 pages to the factorial composition of his Bellevue and Adult Intelligence scales, an aspect not elaborated in previous editions. In Part III, of 100 pages, he deals with the detailed application of his test results to clinical diagnosis.

In a current psychological book from the United States perhaps we can hardly expect to avoid some advice on counselling and guidance, and this is in the final chapter. Although the chapter is brief, it seems a pity that Wechsler must degrade his authority by the familiar hackneyed remarks on how to pick "top-level executives" by experimental tests, for (as he nearly states himself) it cannot be done.

Intracardiac Phenomena in Right and Left Heart Catheterisation. By Aldo A. Luisada, M.D., and Chi Kong Liu, M.D.; 1958. New York and London: Grune and Stratton. 10" x 6½", pp. 190, with many illustrations. Price: \$9.50.

This book is an enlarged second edition of "Cardiac Pressures and Pulses" by the same authors. The particular extensions in the present edition include left heart catheterization and intracardiac phonocardiography and electrocardiography. Written by two well-known authorities in their field, this work will undoubtedly find its place both as an introduction to the subject and as a reference work.

Herein lies one of its weaknesses, as it does not contain sufficient basic matter to be an adequate introduction to the field, and yet does not advance into sufficient detail to make it a major reference work. Much of the work reported has been carried out on the dog—an advantage to those engaged in experimental work, but rather confusing to those working solely in the human field.

The standard of reproduction of the many tracings is high, but there is a tendency to provide too many illustrations for the same point. Recordings rarely have the pressure calibration or the time intervals marked on them, a point causing considerable annoyance to those who are accustomed to making their own analyses of records. From the viewpoint of the practising cardiologist there is a tendency to over-analyse tracings, and often no adequate explanation is given for the appearances described. On the subject of stenotic valves, insufficient emphasis is given to the fact that pressure gradients are of significance only when related to the forward flow. We have encountered two cases of aortic valve disease in which incompetence was the dominant lesion, and yet the systolic gradient across the valve was 120 mm. of mercury. By the criteria of this book, such cases and many in which lesser gradients were present could only be erroneously regarded as of tight stenosis. This omission is somewhat corrected in a late chapter, where the Gorlin formulae are presented and discussed. This chapter is of considerable value, as it gathers from all sources the various formulae used in the calculation of shunts, valve areas, etc. The sections on intracardiac phonocardiography and electrocardiography summarize these studies. The authors have made major contributions in these fields. A good case is presented for the use of the intracardiac phonocardiogram as a more precise method of timing intracardiac events than the conventional electrocardiogram.

The text is clearly written, the quality of the paper and binding are good, and they will stand up to the constant use that will be demanded of them. The subject is still rapidly expanding, and it is hoped that in the next edition of this work the detail and the authoritative basis can be increased to make it a weightier reference book.

The Management of Emergencies in Thoracic Surgery. By John Borrie, M.B.E., Ch.M., F.R.C.S., F.R.A.C.S.; 1958. New York: Appleton-Century-Crofts Inc. 9½" x 6½", pp. 352, with many illustrations. Price not stated.

JOHN BORRIE has written a good account of emergencies in thoracic surgery, and he has put us in his debt by having dealt with them so ably in a volume of 330 pages. The emphasis is on treatment, and the author has fulfilled the mission he set himself: "This book will help general practitioners, house staff and consultants appreciate the emergencies of a new specialty from the surgeon's viewpoint." As Russell Brock notes in a foreword, it will also aid the nursing staff, physiotherapists and other ancillaries.

Special note should be made of Borrie's warning not to strain beyond limit the treatment of acute empyema by repeated aspirations. "Aspiration therapy", he states, "can succeed only in empyema found early (i.e. within a week of onset) with thin pus, no thick fibrin rind on the lung or in the pleural cavity . . ." No more time will be spent on enumerating the excellences of this book. Instead we wish with respect to discuss some doubtful statements and discrepancies.

1. On page 173, Borrie makes the following statement: "With endobronchial rupture, a hydatid cyst invariably becomes infected. If the cyst is large, the greater part of the affected lobe will have been destroyed and lobectomy is clearly indicated." But with prompt operation and suitable antibiotic help, a ruptured hydatid cyst can be successfully dealt with before secondary infection has had time to occur. Even if infection has become established before operation, major lung resection is rarely necessary; almost always removal of the collapsed cyst and debris, with or without concomitant removal of the adventitia, is sufficient. Even with a large cyst the surrounding lung tends to become aerated and to reexpand readily as soon as it has been freed of the embarrassing parasite. A suppurating hydatid cyst is not the equivalent of a lung abscess, because for a long time the adventitia resists extension of infection to the adjacent lung. If extension does occur, then indeed widespread lung suppuration may follow.

2. It is not true that the infected pleural space (due to bronchial fistula after pneumonectomy) "will not heal unless completely obliterated by total thoracoplasty" (page 189). We have known several cases in which complete healing

was attained after prolonged drainage. But this is not to deny that thoracoplasty is often the best treatment for this complication and may, in practice, be necessary for cure.

3. In an historical note on lobectomy, the author writes: "... the technique of tourniquet lobectomy was replaced in 1939 by dissection lobectomy, evolved by Churchill and Belsey." The preceding sentence is: "One of the earliest lobectomies was performed in 1913 by Morrison Davis." (The name is misspelt "Davis" in the text.) But no reference is made to Davies's notable article in the *British Journal of Surgery*, 1913, Volume I, page 254, in which he briefly describes dissection lobectomy for cancer.

The various structures at the pedicle of the lower lobe were ligated separately and the lobe containing the growth, together with a portion of the parietal pleura, was removed. The proximal end of the bronchus was stitched over and covered with an adjacent portion of the lung.

In the same article, in the year 1913, Davies wrote: "In all doubtful cases, at least an exploratory thoracotomy should be undertaken."

4. Some inelegant writing jars. For example, on page 224 we are advised that "all such lesions must be bronchoscoped". Only a few may squirm at "bronchoscope" being used as a verb, but many will wonder how anyone can bronchoscope lesions.

We conclude, as we begun, by classing this as a first-rate book, full of useful information and wise counsel. The publishers have served their author well.

Excreta Disposal for Rural Areas and Small Communities.

By Edmund G. Wagner and J. N. Lanolx; 1958. Geneva: World Health Organization. 9½" x 6", pp. 187, with illustrations. Price: 25s.

This monograph attempts to deal comprehensively with a subject which has generally been covered only in part, to provide specific technical information on suitable types of sanitary installation for rural areas and small communities and, at the same time, to give due consideration to the social and psychological factors involved in changing personal habits and in winning public support for efforts to improve excreta disposal practices. It is pointed out that in large areas of the world, including parts of every country, proper excreta disposal is among the most pressing health problems. A large part of the monograph is devoted to discussing the various types of privy disposal, which is the method of choice in many rural areas simply because the costs of water-carried methods are prohibitive. However, there is also an informative section on the latter methods for institutions and small communities. The last part of the monograph considers excreta disposal as a public health problem, with chapters on the planning of excreta disposal programmes and the training and function of the sanitation staff. This volume is liberally illustrated with sketches and diagrams, and contains sufficient technical detail to make it of value as a practical handbook, as well as providing a full discussion of the wider aspects of the problem.

Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"Disease and Destiny: Logan Clendening" by Ralph H. Major; 1958. Lawrence: University of Kansas Press. 8½" x 5½", pp. 50, with 7 illustrations. Price: \$2.00.

The eighth series of the Logan Clendening Lectures on the History and Philosophy of Medicine.

"Pharmacology", by J. H. Gaddum, M.R.C.S., L.R.C.P., Sc.D., F.R.S.; Fifth edition; 1959. London, New York and Toronto: Oxford University Press. 8½" x 5", pp. 604, with illustrations. Price: 68s.

The previous edition appeared in 1953.

"Health in Industry", by Donald Hunter; 1959. Mitcham: Penguin Books Inc. 7" x 4", pp. 285, with illustrations. Price: 6s.

An account of industrial health written for laymen.

"The Pathology and Management of Portal Hypertension" by E. Milnes Walker, M.B., F.R.C.S.; 1959. London: Edward Arnold (Publishers) Limited. 9" x 5½", pp. 124, with 39 illustrations. Price: 35s. (English).

Based on experience with over two hundred patients seen in the last ten years.

"Fracture Surgery: A Textbook of Common Fractures", by Henry Milch, M.D. and Robert Austin Milch, M.D., with a chapter on anesthesia by Herbert D. Dubovsky, M.D.; 1959. New York: A Hoeber-Harper Book. 10" x 6½", pp. 480, with 480 illustrations. Price: \$17.50.

An attempt to bridge the gap between the small handbook of fracture management and the encyclopedic volume encompassing material primarily of interest to the specialist.

"The History and Philosophy of Knowledge of the Brain and Its Functions: An Anglo-American Symposium. London. July 15th-17th, 1957", Edited by F. N. L. Poynter; 1958. Oxford: Blackwell Scientific Publications. 8½" x 5½", pp. 282, with 12 illustrations. Price: 22s. 6d. (English).

Sponsored by the Wellcome Historical Medical Library with the cooperation of the National Hospital, Queen Square, and the Institute of Psychiatry (University of London) at the Maudsley Hospital, Denmark Hill.

"Bacteriophages", by Mark H. Adams, with Chapters by E. S. Anderson, J. S. Gots, F. Jacob and E.-L. Wolman; Electron Micrographs by E. Kellenberger; 1959. New York: Interscience Publishers. 9" x 6", pp. 612, with 13 illustrations and 25 tables. Price: \$15.00.

Stated to be the first comprehensive treatment of the bacteriophages to appear in thirty years.

"Bacterial and Mycotic Infections of Man", edited by René J. Dubos, Ph.D.; Third edition, 1958. Philadelphia and Montreal: J. B. Lippincott Company, Sydney: Angus & Robertson Limited. 10" x 6½", pp. 832, with 116 illustrations. Price: 93s. 6d.

A revised edition of a volume designed primarily for the medical student but also for the practitioner of medicine.

"Pulmonary Circulation: An International Symposium, 1958. Sponsored by the Chicago Heart Association", edited by Wright R. Adams, M.D., and Ilza Veith, Ph.D.; 1959. New York and London: Grune & Stratton, Inc. 10" x 6½", pp. 336, with many illustrations. Price: \$4.50.

Deals with the pulmonary circulation in primary lung disease and in congenital and acquired heart disease, as well as with its physiology, pathology and historical development.

"Cardiac Arrest and Resuscitation", by Hugh E. Stephenson, Jr., M.D.; 1958. St. Louis: The C. V. Mosby Company, Melbourne: W. Ramsay (Surgical) Limited. 9½" x 6½", pp. 380, with 31 illustrations. Price: £6 12s.

A comprehensive account of the subject.

"Gynecologic Radiography", by Jean Dalsace, M.D., and J. Garcia-Caldéron, M.D.; with a chapter on "Radiography of the Breast", by Charles M. Groz, M.D. and Robert Sigrist, M.D.; Foreword by I. C. Rubin, M.D.; 1959. New York: A Hoeber-Harper Book. 9½" x 6½", pp. 208, with 305 illustrations. Price: \$3.00.

An atlas of hystero-salpingography translated from the French.

"Breast Cancer: The Second Biennial Louisiana Cancer Conference, New Orleans, January 22-23, 1958", edited by Albert Segaloff, M.D.; 1958. St. Louis: The C. V. Mosby Company, Melbourne: W. Ramsay (Surgical) Limited. 9½" x 6½", pp. 260, with 31 tables and 42 illustrations. Price: £2 15s.

The report of a conference at which were represented the pathologist, surgeon, physician, endocrinologist, radiologist, epidemiologist, biochemist, zoologist, virologist and psychiatrist.

"The New Chemotherapy in Mental Illness: The History, Pharmacology and Clinical Experiences with Rauwolfia, Phenothiazine, Azacyclonol, Mephensin, Hydrazine and Benactazine Preparations", edited by Hirsch L. Gordon, M.D., Ph.D., F.A.P.A.; 1958. London: Peter Owen Limited. 9" x 5½", pp. 785, with many illustrations. Price: £6 1s.

Experience in the use of ataractic drugs from 167 contributors.

The Medical Journal of Australia

SATURDAY, MAY 16, 1959.

THE MEETING OF THE FEDERAL COUNCIL

THE recent meeting of the Federal Council held in Sydney was quiet, but a number of important matters were considered. The report of the meeting (see page 676) is therefore worth careful perusal. It is pleasing to note that the President, Dr. H. C. Colville, the Vice-President, Dr. A. J. Murray, and the Honorary Treasurer, Dr. W. F. Simmons, were all reelected to their respective offices unopposed. This is a tribute to the solid job that they have done in conjunction with the other members of the Federal Council and with the General Secretary, Dr. J. G. Hunter, and the medical profession in Australia may be confident that its affairs are in good hands. Dr. C. J. Ross Smith was appointed Assistant General Secretary to fill the gap caused by the tragic death of Dr. Angus McNeil, and we welcome him to a share in an important and ever-growing task.

Two matters may be noted with particular satisfaction. One is the healthy state of affairs that has now been reached in the relations between the British Medical Association in Australia and the various colleges and associations within the profession. A number of these bodies have felt strongly their own responsibilities to "maintain the honour and interests" of their members, and have been reluctant to surrender any powers that seemed essential to the fulfilment of those responsibilities. This is readily understood, especially for the two senior Royal Colleges. At the same time, the Federal Council, with its long experience of medico-political negotiations and with a knowledge of what has happened elsewhere, especially in Britain, was concerned at the danger to the whole profession of presenting a divided front. There was no wish that the British Medical Association should dominate or interfere in the affairs of the various important bodies within the profession, but only a desire to keep the profession united and strong, and to ensure that it had the full benefit of the Federal Council's unique experience in medico-political matters. The Federal Council devoted much time and thought to the devising of a suitable formula to achieve these objects, and it is most gratifying to know that a satisfactory understanding has been reached. There is no reason to doubt that, with a continuance of the mutual goodwill and trust that have been developed, this understanding will be maintained to the benefit of everyone. The other matter for satisfaction is the happy state of relations between the Federal Council and the Repatriation Commission. A number of disputed matters

of greater or lesser importance, which had dragged on irritatingly for a long time, have now been settled amicably, and the prospect for future negotiations is much brighter.

A good deal of time was devoted to the discussion of anomalies in the schedule of medical benefits, and it was clear that a much greater amount of time had already been devoted to the subject both by members of the Federal Council and by others. The problem is of course bristling with difficulties, and it is only too easy for any discussion on the matter to become bogged down in details. However, the Federal Council managed to pick its way through and emerge dry shod. Resolutions adopted on certain matters of detail are set out in full in the report of the meeting. One resolution, aimed at dealing with the over-all problem, was that the Minister for Health be requested to constitute a Medical Benefits Advisory Committee to deal in detail with items in the schedule. The idea was to have a committee along the lines of the Pharmaceutical Benefits Advisory Committee. A number of practical difficulties in constituting such a committee spring readily to mind, but it is to be hoped that something satisfactory of the kind can be devised to handle a particularly unsatisfactory and increasingly unwieldy aspect of the scheme. Resolutions designed to deal with sources of much dissatisfaction, on the part of patients more than of doctors, were to request the Federal Government to make provision for, first, a greater benefit than the present maximum benefit for certain major surgical operations and, second, a supplementary schedule by medical benefit organizations to provide increased benefits for major procedures. Comment on these resolutions is scarcely needed.

One matter which was apparently regarded as settled but may yet come up again is that of surgical training for general practitioners. The negotiations on this arose in the first place from a leading article in this Journal on April 13, 1957, and we should like to see the matter brought to a satisfactory conclusion, as it vitally affects an aspect of general practice of peculiar importance in Australia. The Federal Council has done a considerable service in sponsoring discussions on the question, and it is to be hoped that it will not cease its efforts until it is sure that the Australian College of General Practitioners has in fact achieved its aim in reasonable measure.

The then imminent meeting of the Council of the World Medical Association in Sydney naturally affected the Federal Council meeting, and we hope that it has aroused general interest. Although most members of the profession did not have the opportunity of attending the meetings of the W.M.A. Council, it will be agreed that the visit of the Council members to Australia was an honour to our country and to our profession in Australia. The strong interest here is evident from the practical financial support that has been forthcoming from individual members of the Association. We hope to say more about the W.M.A. Council meeting at a later date.

Probably the matter of most far-reaching importance arose out of the discussion on the proposal of the Council of the Parent Body of the B.M.A. to raise the

overseas subscription rate for members of the Association. The practical effect of this would be that the Branches in Australia would have to forward to the Parent Body an additional sum of approximately £115s. for each member. Although it should not be beyond the resources of the profession in Australia to meet this increase, the sum involved is appreciable; its addition in full to the membership subscription would not be universally welcomed, especially in several of the smaller Branches where the subscription rate is already high. However, the Federal Council endorsed a letter which had already been sent by the executive officers to the Branches, recommending that a strong appeal be made to members to agree to the proposed increase. The letter recognized the increasing call for and the inevitability of the formation of a medical association in Australia independent of, but affiliated with, the British Medical Association, but considered that it would not redound to the credit of the profession in Australia if the reason for breaking away from the Parent Body was an increase in the overseas rate of subscription. Most reasonable people will agree wholeheartedly with this. In view of the Federal Council's decision to go ahead with investigating the possibility of forming a Medical Association of Australia, we trust that it can be left to the good sense of the general body of members of the Association to accept the increase, while the unavoidably lengthy negotiations are carried on which are inseparable from the complicated task of forming a new association in Australia. It is unthinkable that the severing of our direct ties with the Parent Body should be on other than the most friendly mutual basis; it should certainly not be tangled up with a small tiff about subscription rates. In any case, the financial blow has already been softened by the action of the Australasian Medical Publishing Company Limited in agreeing to reduce the per-capita payment for supply of THE MEDICAL JOURNAL OF AUSTRALIA from £1 to 5s. for 1960, the amount of 5s. to be credited to the several Branches as debentures in the Company's Building Fund Account. The effect of this is that for 1960 members of the Association in Australia will receive THE MEDICAL JOURNAL OF AUSTRALIA free, and 15s. will be released to meet a substantial proportion of the amount required for the Parent Body. For the present it is probably not too rash to predict that within perhaps three years the Medical Association of Australia will be an actuality.

MILESTONES.

A PARTICULARLY happy function was held at The Printing House on Wednesday, March 25, 1959, the opening day of the meeting of the Council of the World Medical Association in Sydney. Some sixty-five guests, including members of the W.M.A. Council and of the Federal Council of the British Medical Association in Australia, were entertained at luncheon by the Directors of the Australasian Medical Publishing Company Limited. They were then invited to inspect The Printing House and the new machinery which has been installed in the Western Extension.

Later in the afternoon, in the presence of Mrs. M. Archdall and of the Directors and employees of the Company, a plaque to the memory of the second Editor of THE MEDICAL JOURNAL OF AUSTRALIA, Dr. Mervyn Archdall, was unveiled by the Chairman of Directors of the Company, Sir Henry Newland. The plaque had been erected in the front entrance to The Printing House, alongside those commemorating the Founder of the Company, former Chairmen of Directors and the first Editor. Before unveiling the plaque, Sir Henry Newland made the following remarks:

We have met today within these portals of The Printing House. I would remind you of the significance of this. This fine property is the possession of all the Branches of the British Medical Association in Australia comprising thousands of members.

We come today not in mourning, but in a proud and grateful mood, to unveil this memorial tribute to the great services of our late distinguished Editor. Week by week he toiled in this House and kept in touch through the pages of THE MEDICAL JOURNAL OF AUSTRALIA with the thousands who scanned them. This little plaque has no market value, but in a sense it is a jewel. Within it is embalmed what is beyond all price, the rich appreciation of his fellows whom Mervyn Archdall served so well.

It is appropriate also to record here with gratitude the thoughtful and generous action of Mrs. Archdall in presenting to the Company the Gold Medal of the British Medical Association in Australia awarded to Dr. Archdall on September 1, 1957, shortly before his death. In a seemly and beautiful case, also presented by Mrs. Archdall, the medal rests beside the portrait of Dr. Archdall in the T. W. Lipcomb Room at The Printing House. All who knew him at The Printing House are glad to have it there.

Current Comment.

NEW LIGHT ON HOOKWORM ANÆMIA.

WHEN the International Health Board of the Rockefeller Institute undertook to foster a world-wide campaign against hookworm, this parasite was generally regarded as one of the major debilitating diseases of the tropics and one of the principal causes of anæmia in those regions. The Rockefeller Institute's campaign is now history; but despite a better knowledge of the treatment and prevention of the disease, the hookworm is still very much with us in most of its former haunts. However, in recent years its role in the causation of anæmia has been seriously questioned, and there has been a tendency in some quarters to deny it altogether. This is because surveys have shown little correlation between the incidence of anæmia and the incidence of hookworm, and because it has been demonstrated that in cases of severe hookworm infestation it is possible to cure the anæmia without disturbing the hookworms, if adequate doses of iron are given by mouth. However, those who have seen the combination of massive hookworm infestation and gross anæmia in patients with hemoglobin levels of two to four grammes per 100 ml., are not easily persuaded that the hookworm is altogether guiltless. Last year the matter was the subject of an interesting correspondence in *The Lancet*,¹ and a recent paper by H. Foy, A. Kondi and W. H. Austin² shows that new techniques have made possible a much

¹ *Lancet*, 1958, 1: 857, 962 and 1226, and 2: 529.

² *N. Afr. med. J.*, 1958, 35: 607 (November).

more exact approach to the problem. After the intravenous injection of radioactive iron and/or chromium salts, it is possible to estimate accurately the blood loss from the gastro-intestinal tract by measuring the radioactivity of the stools; this measurement is unaffected by any normal iron in the diet. In the past few years Foy and Kondi have published a series of papers dealing with tropical iron deficiency anaemia and with its relationship to hookworm. In this present paper they describe the results obtained with four grossly anemic adult patients, of whom two had very heavy hookworm infestations, each of them harbouring over 1000 worms, and two had insignificant infestations with less than ten worms each. All four patients responded to treatment with iron by mouth, the hookworms being left in peace until the patients' haemoglobin values had been restored to normal. It should be noted that the haemoglobin levels of the heavily infested patients were restored in spite of average daily losses of 12 to 13 ml. of blood, equivalent to about 4 mg. of iron. This loss dwindled rapidly after the worms had been evacuated. Foy and Kondi point out that if the dietary intake of iron is marginal, losses of this order would be quite capable of causing in time a very severe degree of anaemia. It was also shown that there was no gastro-intestinal blood loss in the two patients with very light hookworm infestations, and it is therefore clear that in their case the anaemia must have been due to some other cause. Other causes of iron deficiency anaemia in the tropics which Foy and Kondi have discussed elsewhere are: (i) malaria, (ii) shortage of iron in the diet, (iii) poor absorption of dietary iron on account of the type of food eaten in tropical areas, and (iv) excessive dermal loss because of high sweating rates.

The conclusion seems to be that while the combination of heavy hookworm infestation with an otherwise barely adequate intake of dietary iron can cause severe anaemia, much of the iron deficiency anaemia seen in tropical countries is mainly due to other causes, and that where the intake of dietary iron is good, even severe degrees of hookworm infestation are unlikely to cause any serious anaemia. For this reason Foy and his colleagues advocate the fortifying of some common article of diet with an iron salt as a prophylactic measure, in areas where iron-deficiency anaemias are prevalent, whether associated with hookworm infestation or not. It is clear that the aetiology of iron-deficiency anaemias in tropical countries is complex, and that causes which are important in one area may be of no significance in another. It is evident that there is still much to be learnt about the details of the causation of such anaemias, but the one overriding fact appears to be that, whatever the precipitating cause, it will not operate if the dietary intake of iron in an absorbable form is good.

MEDICAL LANGUAGE: THE TRANSLATOR'S HEADACHE.

MEDICAL and scientific literature is daily becoming fuller of what Sir Alan Herbert has called "useful neologisms". (Some of them, unfortunately, seem to be more neologisms than useful.) The noting of new phenomena and the describing of new syndromes are continually bringing about the development of esoteric terminologies which not infrequently are bewildering even to the initiated. H. Van Hoof discusses the position from the scientific translator's point of view. Referring first to etymological traps, he warns the expert in classical languages who thinks that he will be safe to undecieve himself. Medical language has such slight respect for etymological rules, classical forms and spelling that he is bound to make mistakes. There are also endless traps for the unwary in transliteration from one language to another. Examples given by Van Hoof include the following: the French adjective *cardiaque* must be translated into English as "cardiac" if it refers

to the heart and "cardial" if it refers to the cardia; similarly, the English adjective "ovarian" has two forms in French—*ovarien* when it refers to the ovarian cycle, *ovarique* when it refers to an ovarian cyst. Such situations are common.

"The jungle of synonyms" is next discussed by Van Hoof. He declares that medical terminology presents perhaps the finest example of "pathological proliferation of synonyms". The concepts designated by more than one expression are without number; no doubt they are equivalent, but they differ according to whether the emphasis is placed on the anatomical, clinical or pathogenic aspect, or alternatively on historical or geographical considerations. Under this same section comes the question of eponyms, which Van Hoof regards as of somewhat doubtful value. He points out that, although it may be praiseworthy to perpetuate in this way the memory of outstanding researchers, the choice of eponyms is completely arbitrary, and they are not always justified.

"The puzzle of abbreviations" is next on the list; and here let it be said that not only translators suffer from headaches on this score. As Van Hoof points out, abbreviations in scientific writing are useful and necessary, but they should be properly employed. Surely it would not be too much to ask that writers who make their own abbreviations for long names (diseases, drugs, tests, etc.) should present them in full at least once in the papers they present, until they are known to be commonly accepted. This procedure would be of help to everyone, even translators, who must cope with such puzzles as "P.C.E." (French) meaning "R.A." (English), "V.B.P." (French), meaning "C.B.D." (English), etc.

Discussing "reciprocal borrowing" of terms, Van Hoof states that it is in general not justified unless there is a true lack of a suitable expression in the other language. He deprecates the taking over into French of such phrases as "pinck disease" (*sic*), "cold pressor test", "kissing ulcer", etc., all of which are capable of exact translation. (In parentheses, the same may be said of some phrases taken from other languages into English.) Van Hoof states that terms borrowed from modern languages may, in the same way as the neo-classical compound words borrowed from Greek and Latin, embarrass the best-intentioned translator. His professional conscience will often save him, if it moves him to check every doubtful term in specialist dictionaries; but there will be occasions on which the dictionaries are of no help. In such a changing domain as medicine, in which each day brings a harvest of discoveries, new techniques and refinements in methods of investigation and treatment, a dictionary is likely to be out of date in some respects before it is printed. Thus the medical and pharmacological texts with which the translator is confronted have a passing value only, and he must be his own dictionary.

Out of his statement of the whole situation, Van Hoof has gathered and stated some recommendations for translators—one might almost call them rules—the observation of which will at least tend towards greater accuracy. They are as follows:

1. He will beware of apparently simple and logical etymologies.
2. He will check the exact significance of two synonyms in a given language before using them interchangeably.
3. He will avoid using eponyms which are unfamiliar to him.
4. He will use borrowed words and foreign forms as little as possible, but will adopt those which usage has accepted for the sake of convenience.
5. He will always check in the specialized literature the significance and the exact translation of every term that he cannot find in the dictionaries.

As Van Hoof stresses, the most important thing in medical translation, more than translation in any other specialty, is the finding of the exact word—exact in spirit as well as in letter. Experience and practice are the translator's best guides.

Abstracts from Medical Literature.

PHYSIOLOGY.

Secretion from the Avian Salt Gland.

R. FANGE, K. SCHMIDT-NIELSEN AND M. ROBINSON (*Amer. J. Physiol.*, November, 1958) state that in birds with a marine habitat the nasal glands are modified into salt glands, able to excrete excess sodium chloride. The nervous control of the salt glands was investigated in the herring gull, *Larus argentatus*. Normal secretion of the salt gland seems to be released by a nerve reflex involving higher nerve centres and central osmoreceptors. The reflex can be evoked experimentally by intravenous injection of a hypertonic sodium chloride solution, or by increasing the osmotic pressure of the blood in other ways. The gland is innervated from a nerve plexus in the anterior part of the orbit of the eye. Secretion is produced by stimulation of a nerve, probably a branch of the seventh cranial nerve, which connects with the plexus. The plexus also receives sympathetic fibres, but no secretion was observed after stimulation of the cervical sympathetic chain. The gland is stimulated to secrete its osmotically highly concentrated fluid (700 to 800 millimols of sodium) by "Mecholyl" and acetylcholine, indicating a parasympathetic innervation as the normal excitatory pathway. The secretion that normally occurs in response to a salt load is blocked by anaesthesia. It is also inhibited by atropine, adrenaline or acetazolamide.

Ovulation Induced by Hypothalamic Stimulation.

V. CRITCHLOW (*Amer. J. Physiol.*, October, 1958) reports that in an experiment in which 38 female rats with normal oestrous cycles were used, electric stimulation during pentobarbital anaesthesia was effective in inducing ovulation. It was found that bilateral stimulation of the hypothalamus in anaesthetized prooestrous rats during the "critical period" and within certain spatial and current limitations consistently caused ovulation. The area that appears most responsive is medially situated in the ventral hypothalamus, between the optic chiasma and the infundibular stalk.

Reversible Cessation of Blood Circulation in Deep Hypothermia.

E. F. ADOLPH, S. KLEM AND L. B. MORROW (*J. appl. Physiol.*, November, 1958) report that in rats at body temperatures below 15° C. the arterial pressure reflected immediately the temperature of the heart. Pressure fell precipitously between 17° C. and 8° C. and depended on low pulse frequency. Pressure and pulse frequency were the same at each heart temperature during warming as during cooling. Below 8° C. the heart could remain stopped for one hour, with subsequent recovery. Anoxia, produced by ventilating the lungs with purified nitrogen at a temperature of 16° C. to 10° C., suddenly decreased the arterial

pressure and pulse frequently but did not stop the heart entirely. The vagus nerves were unnecessary for this effect, which could be reproduced also in isolated hearts. The oxygen content of blood in non-breathing rats at 10° C. gradually diminished, but an arterio-venous difference of oxygen concentration persisted as long as the heart was beating, which indicated that oxygen was being consumed. Neither circulation of blood nor delivery of oxygen to tissues during hypothermia directly limited survival of the rat after it was rewarmed.

Erythrocyte Hydration under Positive Acceleration.

R. L. FENICHEL AND G. H. KYDD (*J. appl. Physiol.*, November, 1958) report that Rhesus monkeys were employed to study the effects of positive acceleration on erythrocyte hydration. Blood samples were obtained from the carotid artery just before and immediately after exposure to a standard pattern of positive acceleration. The mean corpuscular hemoglobin concentration fell an average of 5.8%. This striking fall in mean corpuscular hemoglobin concentration indicated that after exposure to gravitational force, the monkey's erythrocytes were greatly increased in size. Fluid had shifted into the red blood cells. There was a mean decrease of 2.3% in the hemoglobin concentration. The hematocrits remained constant during these experiments. A slight decrease in the relative viscosity of the blood was noted; this finding, however, was not statistically significant. Sulphydryl concentration by itself and in relation to the hematocrit did not show a significant change after acceleration.

Gastric Secretion and Free Histamine in Urine.

W. T. IRVINE AND C. F. CODE (*Amer. J. Physiol.*, October, 1958) report that simultaneous determinations of the hourly outputs of free histamine in the urine and free acid in the juice from Heidenhain gastric pouches were made in dogs after the ingestion of meat. The gastric secretory response to the meal was separated into intestinal and gastric components. The rough parallelism, noted by others, between the outputs of acid in the gastric juice and free histamine in the urine after the meal was verified. When the meat was placed in the jejunum the output of histamine in the urine promptly increased, while the output of acid was minimal or absent. Later, the output of acid increased, while the output of histamine declined. Meat placed in the isolated stomach produced active secretion of acid but no increase in urinary histamine. No increase of urinary histamine followed a meal of bread and milk. During nervous secretion induced by insulin hypoglycaemia, the output of free histamine in the urine did not change.

Excitability of the Normally Beating Heart.

C. A. MAASKE AND B. BROMBERGER-BARNEA (*Amer. J. Physiol.*, December, 1958) report that the electrical and mechanical responses to single square wave stimuli applied to spontaneously beating hearts *in situ* were examined.

Shocks were delivered through a time delay circuit triggered by the voltage of the R wave of the electrocardiogram. The silver-silver chloride electrodes were 3 mm. apart and their position on the ventricular surface was kept constant throughout an experiment. Stimuli were separated by 20 to 30 heart beats. The plotted excitability curve (strength/interval) was found to be smooth without any indication of transient variations in threshold. Single stimuli of various durations (up to 100 milliseconds) and amplitudes (up to 25 milliamperes) were ineffective for the production of ventricular fibrillation. It appears that excitability recovery for a small and localized myocardial area is synchronous and smooth.

Intravascular Carbon Dioxide Gas in Cardiac Investigations.

W. WINTERS *et alii* (*Amer. J. Physiol.*, December, 1958) report that carbon dioxide gas injected intravenously will safely demonstrate experimental interatrial defects by the use of a cine-fluorographic technique. Under these experimental conditions gas may be demonstrated in the left atrium and ventricle. At the time gas passes through the defect the systemic pressure rises. In the absence of a defect the systemic pressure falls. Left ventricular systolic pressure levels parallel the changes in systemic blood pressure. The presence of gas in the right atrium elevates pressure in the left atrium by only a few millimetres of mercury in control animals.

Estimation of Resistance to Fatigue.

A. W. J. H. HOITINK (*Presse méd.*, October 18, 1958) states that, during research carried out some years ago into the importance of vitamin C to workers, he discovered that estimation of the total volume of circulating erythrocytes by the hematocrit gives an indication of fitness for physical work and resistance to fatigue. The estimation must be made on the resting subject. The greater the hematocrit reading, the better the subject's performance. The author comments that this is only one of the factors involved in work capacity and resistance to fatigue, but if properly used may be of value.

Effect of Hypoxia on the Heart.

H. FEINBERG, A. GEROLA AND L. N. KATZ (*Amer. J. Physiol.*, December, 1958) have studied the effect of hypoxia on cardiac oxygen consumption and coronary flow. In their experiments, the arterial oxygen content was gradually decreased in the anaesthetized open-chested dog, prepared for total coronary flow measurement, while cardiac performance and myocardial oxygen consumption were explored over a wide range. The coronary venous oxygen content and the coronary arterio-venous oxygen difference decreased in proportion to the decline in arterial oxygen tension, hence the percentage of myocardial oxygen extracted remained relatively constant. The arterio-venous oxygen difference and the percentage of oxygen extraction remained fairly constant at each level of arterial oxygen over a wide range of cardiac performance and oxygen consumption. Coronary blood

flow increased both when the arterio-venous oxygen content decreased and when the oxygen consumption increased. The coronary flow response to hypoxia was commensurate with the decreased arterio-venous oxygen content; hence the ratio of oxygen consumption to oxygen availability remained normal and constant throughout the period of hypoxemia. The oxygen cost of cardiac external useful work (external efficiency) was essentially unchanged, while the oxygen cost of cardiac effort, as measured by the product of blood pressure and heart rate, was only slightly altered by hypoxia.

BIOCHEMISTRY.

Diabetes.

A. H. MEHLER, E. G. MCDANIEL AND J. HUNDLEY (*J. biol. Chem.*, May, 1958) have studied changes in the enzymatic composition of the liver under the influence of hormones. Livers of alloxan-diabetic rats have greatly increased concentrations of an enzyme that forms picolinic acid from an oxidation product of 3-hydroxy-anthranilic acid. The level slowly reverts to normal values following insulin administration. These changes are inversely correlated with the excretion of N-methyl nicotinamide. The increase in picolinic carboxylase in the livers of diabetic rats depends upon the presence of cortisone or related adrenal hormones. Cortisone administration to diabetic adrenalectomized or hypophysectomized rats causes the enzyme to increase for several days, but has much less influence in normal animals. Evidence is presented for the existence of at least two hormonal factors that influence the levels of liver enzymes.

Lipides.

G. V. MARINETTI *et alii* (*J. biol. Chem.*, September, 1958) have undertaken the lipid, and in particular the phosphatide, analysis of the mitochondria, microsomes and supernatant fluid of pig heart ventricle. Significant differences were noted, especially in the distribution of the individual phosphatides. A lipid tentatively identified as a polyester-glycerolphosphatide was found to occur almost exclusively in the mitochondria. The ubiquitous nature and cellular localization of this lipid suggest it may have an important metabolic role.

Fluoride.

K. KUTNERIAN AND A. C. KUYPER (*J. biol. Chem.*, September, 1958) have studied the effect of fluoride on the solubility of bone salt. When bone salts are precipitated from inorganic solutions of the same composition as blood plasma, except for raised calcium and phosphate and the presence of a small amount of fluoride, an initial precipitate is formed and is stabilized by the fluoride at a solubility level several times greater than that of the final precipitate. After an interval of time which is dependent on the amount of fluoride present in the solution, precipitation is reinitiated and proceeds to the final solubility level. The initial precipitate, stabilized by fluoride, contains less carbonate and less fluorine than the

final precipitate. The addition of 0.2 p.p.m. or more of fluoride to bone salt suspended in serum salt solution decreases the solubility equilibrium of the bone salt. Fluoride decreases the solubility of bone salt more effectively if it is added to suspensions of bone salt than if it is included in the solution from which bone salt is formed. The ratio of the amount of fluorine in dentine to that in blood, as determined from analyses selected from the literature, is roughly the same as the ratio of the amount of fluorine in the inorganic phosphates to that in their supernatant solutions.

Vitamin E.

K. O. DONALDSON *et alii* (*J. biol. Chem.*, September, 1958) have shown that isooctane extraction of particulate preparations of rat skeletal muscle and bovine heart muscle results in the removal of approximately 10% of the total vitamin E with a concomitant loss of 90% of the diphosphopyridine nucleotide-cytochrome c reductase activity. A significant proportion of the vitamin is in the presumed tocopherol quinone form. However, the concentration of total vitamin E in the lipid residue obtained by isooctane extraction is approximately 0.1% and cannot account for restoration of the enzyme. A number of natural and synthetic products, including butter, oleomargarine, n-butyl stearate and the lipid co-factor (glycerol monopalmitate, monooleate and monostearate) also reactivated cytochrome c reductase. Since only the lipid co-factor and other active lipides potentiate the extractability of endogenous vitamin E, it is suggested that they are acting by releasing the vitamin to the "active sites" of the enzyme. Successive isooctane extractions of the enzyme are accompanied by a progressive removal of vitamin E as well as a corresponding decrease in diphosphopyridine nucleotide-cytochrome c reductase activity. By aging the enzyme preparations under given conditions in order to dissociate more of the endogenous tocopherol, it has been possible to show that enzymatic restoration is accomplished specifically by the tocopherols. The lipid co-factor, n-butyl stearate, butter and oleomargarine, which were previously demonstrated to reactivate the enzyme, are now ineffective. These substances no longer potentiate the extractability of d- α -tocopherol by isooctane with the present tocopherol-specific enzymes. Vitamin E is indicated to be a co-factor of cytochrome c reductase.

Insulin.

J. M. SCHOR AND E. FRIEDEN (*J. biol. Chem.*, September, 1958) report that the induction of tryptophane peroxidase is not a linear function of dosage injected. Small doses are more efficient than large ones. Insulin can induce the formation of tryptophane peroxidase *in vivo* and some of this induction is independent of the adrenals. The inducing effects of tryptophane and insulin are additive, as are those of insulin and cortisone. Triiodothyronine and diethylstilbestrol have no effect on tryptophane peroxidase under the experimental conditions used, but testosterone can induce a small increase in tryptophane peroxidase activity. After

injection of alloxan, the tryptophane peroxidase level shows a biphasic increase as a function of time elapsed after injection. The first peak is reached six hours after injection; at 24 hours the tryptophane peroxidase activity returns to normal levels; and at 72 hours the second peak is reached and maintained. The changes in tryptophane peroxidase level are independent of the glucose concentration in the urine. Small increases in tryptophane peroxidase can be induced in liver slices from normal rats.

Phospholipides.

M. R. HOKIN *et alii* (*J. biol. Chem.*, October, 1958) have studied the secretion of adrenaline in response to acetylcholine in slices of guinea-pig adrenal medulla. About 7 μ g. of adrenaline were found in the medium after incubation of all of the slices of medulla from one pair of adrenals; this amount was approximately the same in each animal, although there were great differences in the weights of the glands in different animals. Acetylcholine (with eserine) stimulated the secretion of adrenaline; 10^{-5} M acetylcholine elicited a maximal response, which averaged 5.5 μ g. of adrenaline secreted above the control value per pair of adrenals. In the presence of 10^{-3} M acetylcholine, the incorporation of P^{32} into phosphoinositide was stimulated on average 150% and into phosphatidic acid 100%. There was no significant stimulation of P^{32} incorporation into phosphatidyl choline and phosphatidyl ethanolamine. With concentrations of acetylcholine of 10^{-4} M and 10^{-3} M, the stimulation was masked by a superimposed non-specific inhibitory effect on the incorporation of P^{32} into all of these phospholipides. Atropine (10^{-6} M) completely abolished the effect of acetylcholine on adrenaline secretion and on the incorporation of P^{32} into phosphatides. From these results, the hypothesis that phospholipides play a role in the active secretion of proteins by exocrine glands and of polypeptides by endocrine glands has been further extended to include the secretion of adrenaline by the adrenal medulla.

Glucagon.

M. H. MAKMAN *et alii* (*J. biol. Chem.*, October, 1958) have described a blood fractionation procedure by which glucagon added to whole blood can be recovered in good yield and assayed. A glucagon-like material has been shown to be present in the peripheral and pancreatic blood of the dog and in the peripheral venous blood of man at levels of possible physiological significance. Fractionation and characterization of the glucagon-like material have thus far shown it to be indistinguishable from glucagon. The material stimulated phosphorylase reactivation in the liver homogenate system, was not blocked by ergotamine, stimulated glucose output from liver slices, was non-dialysable from blood fractions, was inactivated by trypsin and by an "insulinase" extract which acted on glucagon and showed pH stability and solubility similar to glucagon. Glucagon injected into the portal vein of a dog was recovered from femoral venous blood, indicating that if glucagon was secreted by the pancreas it might appear in peripheral blood.

British Medical Association.

FEDERAL COUNCIL.

A MEETING of the Federal Council of the British Medical Association in Australia was held at British Medical Association House, 135 Macquarie Street, Sydney, on March 21, 22, 23, 26 and 27, 1959. The President, Dr. H. C. Colville, was in the Chair.

REPRESENTATIVES.

The following representatives of the Branches were present:

New South Wales: Dr. W. F. Simmons, Dr. A. J. Murray, Dr. R. H. Macdonald, Dr. E. F. Thomson.

Queensland: Dr. A. E. Lee, Dr. D. P. Sapsford.

South Australia: Dr. L. R. Mallen, Dr. C. O. F. Rieger.

Tasmania: Dr. L. N. Gollan, Dr. F. R. Fay.

Victoria: Dr. H. C. Colville, Dr. J. G. Johnson, Dr. T. G. Swinburne.

Western Australia: Dr. C. W. Anderson, Dr. D. M. Clement.

DEATHS.

The General Secretary referred to the fact that since the previous meeting of the Federal Council the deaths had occurred of Dr. Edward Brettingham-Moore and Dr. Angus McNeill. He said that Dr. Brettingham-Moore, who had died on January 9, 1959, had been a member of the Federal Committee from 1919 to 1923, and from 1927 to 1928. Dr. Angus McNeill, who had died on February 3, 1959, had been Assistant General Secretary to the Federal Council from 1957 to 1959.

The President spoke of the sad circumstances of the death of Dr. McNeill and of the great loss that it had been to the Federal Council. He paid a tribute to the personal qualities of Dr. McNeill and to the ability that he had shown in his work as Assistant General Secretary.

The members of the Council stood as a mark of respect to the memory of Dr. McNeill, and a resolution was adopted that a message of sympathy be sent to Mrs. McNeill from the Federal Council.

APPOINTMENT OF OFFICE BEARERS.

The following office bearers were elected unopposed:

President: Dr. H. C. Colville.

Vice-President: Dr. A. J. Murray.

Honorary Treasurer: Dr. W. F. Simmons.

ANNUAL REPORT.

The report of the Federal Council for the twelve months ended December 31, 1958, was presented by the General Secretary and adopted.

FINANCE.

Annual Financial Statement.

The annual financial statement and balance sheet of the Federal Council was presented by the Treasurer, Dr. W. F. Simmons, and adopted.

The Honorary Treasurer then moved the following motion, of which the necessary notice had been given:

That By-Law 15 (iii) be amended by the addition of the following words at the end of the By-Law:

"Payment of such sum or sums shall be made in two equal instalments in January and July in each year."

so that the By-Law shall read:

"To meet the general and other expenses of the Federal Council the Treasurer of each Branch shall pay to the Federal Council such sum or sums as the Federal Council may require, provided that the total so payable in any year shall not exceed a sum equal to twenty-five shillings per member of the Branch as at 1st January in that year. Payment of such sum or sums shall be made in two equal instalments in January and July each year."

The motion was carried.

Organization Fund.

The Honorary Treasurer presented the financial statement of the Organization Fund for the period ended

December 31, 1958. The balance standing to the credit of the fund was £1638.

Federal Independence Fund.

The Honorary Treasurer presented the financial statement of the Federal Independence Fund for the year ended December 31, 1958. The balance standing to the credit of the fund was £24,089, of which £20,998 was invested in Commonwealth Treasury Bonds. It was decided that a further £2000 should be invested in Commonwealth Treasury Bonds.

Entertainment Fund.

The Honorary Treasurer presented the financial statement of the Entertainment Fund for the year ended December 31, 1958. The balance standing to the credit of the fund was £277.

Auditors.

It was resolved that F. W. Duesbury and Co. be appointed auditors for the ensuing year at a fee to be fixed.

HENRY SIMPSON NEWLAND PRIZE FOR SURGERY.

The Honorary Treasurer presented the financial statement for the Henry Simpson Newland Prize Fund for the year ended December 31, 1958. The credit balance for the fund stood at £1035. It was resolved that, as Dr. J. G. Muir was no longer a member of the Federal Council, his place on the committee to administer the fund should be taken by Dr. T. G. Swinburne. Discussion took place on the subject of the essay for the prize which would next be awarded in 1962, but no decision was reached.

MEDICAL WAR RELIEF FUND AND MEDICAL OFFICERS' RELIEF FUND (FEDERAL).

The Honorary Treasurer presented the trustees' report of the Federal Medical War Relief Fund and of the Medical Officers' Relief Fund (Federal) for the year ended December 31, 1958. The credit balances of these funds stood respectively at £16,502 and £6959. It was pointed out that amounts had been paid out to beneficiaries totalling £1107 and £364 respectively. The reports were adopted.

HONOURS.

The General Secretary reported that letters of congratulation had been sent to the following members of the Association on the occasion of the conferring of honours on them by Her Majesty the Queen: Sir William Morrow, Knight; Dr. A. B. Lilley, C.B.E.; Dr. J. A. James, C.B.E.; Dr. C. J. Tonkin, O.B.E.; Dr. P. R. Delamothe, O.B.E.; Dr. J. A. Arratta, M.B.E.

Letters of congratulation had also been sent to the following persons who were not members of the British Medical Association, but had been associated with it: Sir Phillip McBride, P.C.; Sir Walter Cooper, M.B.E.; Mr. A. W. Paul, O.B.E.

The Federal Council also extended its congratulations to Dr. E. F. Thomson on his appointment as an Honorary Surgeon to Her Majesty the Queen.

MEDICAL PRACTICE IN AUSTRALIA.

The General Secretary reported that he had received a considerable number of letters from doctors overseas inquiring about registration requirements and conditions of practice in Australia. A suitable reply had been sent in each case.

MEDICAL ASSOCIATION OF SOUTH AFRICA.

The General Secretary reported that he had had correspondence with the Medical Association of South Africa, in the first case over an inquiry from them in regard to rates of subscription payable by members of the Association in Australia, and in the second in regard to a history of medicine in South Africa by Dr. Edmund H. Burrows, a copy of which had been sent.

INDISCRIMINATE MAILING OF POTENTIALLY DANGEROUS DRUGS.

The General Secretary reported that a letter had been received from the Queensland Branch Council referring to the indiscriminate mailing of potentially dangerous drugs, a subject which had previously been considered by the Federal Council in August, 1957. In its letter the Queensland Branch Council had stated that it had recently raised with the Director-General of Health and Medical Services in Queensland the practice of certain drug houses of for-

warding to medical practitioners unsolicited samples of restricted drugs through the post in unsealed envelopes. It was considered that this was a very dangerous practice. The Director-General had advised that the postal authorities had informed him that they had no power with regard to the package of drugs other than dangerous drugs. As the drugs concerned were posted from other States, the Department in Queensland could take no action because of Section 92 of the Constitution. The Queensland Branch asked that the matter be taken up by the Federal Council.

In the discussion it was pointed out that one of the difficulties related to the use of unsealed envelopes, and it was resolved an approach should be made to the Postmaster-General's Department in regard to the dangers of sending restricted drugs through the post in unsealed envelopes and asking him to have the practice prevented.

TELEPHONE DIRECTORIES.

A letter was received from the New South Wales Branch recommending that representations be made to the Postmaster-General's Department to give consideration to publishing each year a supplementary list of new and altered telephone numbers recorded between July 1 and December 31 of the year. The matter had been referred to the Branches.

The Councils of the Queensland, Victorian, South Australian and Tasmanian Branches had supported the recommendation of the New South Wales Branch. The Western Australian Branch Council had not supported it, as it considered that the expense involved would not be warranted, and it was also stated that the Postmaster-General had indicated on a number of occasions that it was proposed to revert as soon as possible to the pre-war custom of issuing telephone directories each six months. After further discussion a resolution was adopted in terms of the recommendation of the New South Wales Branch.

INFORMATION REQUESTED BY LIFE ASSURANCE COMPANIES.

The New South Wales Branch forwarded a copy of a letter received from the Life Offices' Association of Australasia, New South Wales Section, in reply to a request from the Branch that the Life Offices' Association take up with its member societies the matter of arranging for a form of authority from the proponent to be sent to the doctor when an assurance company requested information concerning the proponent. The letter set out the attitude of the Life Offices' Association in the matter. It was advised that a copy of the letter would be sent to the Branches for information.

CENTENARY OF GENERAL MEDICAL COUNCIL.

The General Secretary reported that he had sent a letter of congratulations to the General Medical Council, London, on behalf of the British Medical Association in Australia, on the occasion of the centenary year of the Council. The correspondence was published in THE MEDICAL JOURNAL OF AUSTRALIA of February 28, 1959, on page 310.

NEW ZEALAND BRANCH.

The General Secretary reported that he had received a letter from the New Zealand Branch of the B.M.A. seeking information in regard to the payment of specialists rendering service to public institutions in Australia. He had supplied the required information in detail.

AUSTRALIAN AND NEW ZEALAND ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE: THIRTY-FOURTH CONGRESS.

The General Secretary reported that the Thirty-Fourth Congress of the Australian and New Zealand Association for the Advancement of Science was to be held in Perth from August 24 to 28, 1959. Dr. C. W. Anderson had agreed to represent the Federal Council at the Congress.

COOPERATION BETWEEN CLERGY AND DOCTORS.

A letter was received from Dr. Bruce H. Peterson, of Sydney, who wrote as convener of a subcommittee on "Cooperation between Clergy and Doctors". He said that the subcommittee had been formed in New South Wales in May, 1957, at the request of the Laity Commission of the Australian Council for the World Council of Churches. Its purpose was indicated by its title. It consisted of seven leading clergymen of the various member denominations of the World Council of Churches and nine doctors. It had met approximately monthly, and discussion had led to a greater increase in understanding of each profession's distinctive roles. In cooperation with the Australian Council for the World Council of Churches, the subcommittee was now planning a national consultation between clergy and doctors to be held for a few days, probably in the spring of 1960. Each State was being asked to form a

clergy-doctor committee under the auspices of the respective State councils for the World Council of Churches, to prepare a paper on some aspect of the general theme for the consultation, which was to be "Ways of Working Together in Religion and Medicine", with due regard for the practical professional problems involved and particularly for the understanding and respect each profession ought to have for the other's role. The papers could be discussed at an interstate level at the consultation. The Roman Catholic Church would be invited to participate. Dr. Peterson said that the subcommittee had asked him to let the Federal Council know of the developments and would be most grateful for any suggestions that might be made with regard to the consultation.

The matter was referred to the Branches for their information and such action as they thought necessary.

SUGGESTED VISIT TO RUSSIA.

The General Secretary referred to correspondence that had taken place with regard to a suggestion that representatives of the British Medical Association in Australia should visit Russia. He reported that a letter had been received from Dr. D. Pokrovsky, Chairman of the Medical Workers' Union, Russia, advising that the Presidium of the Central Committee of the Medical Workers' Union would discuss the matter of such a visit.

AUSTRALIA-SOVIET FRIENDSHIP SOCIETY (N.S.W.).

A letter was received from the Australian-Soviet Friendship Society (N.S.W.) advising that steps were being taken in the Soviet Union to establish a U.S.S.R.-Australia Society for Friendship and Cultural Relations, and seeking the advice of the Association in regard to the creation of the society.

After discussion it was resolved that the Federal Council was of the opinion that the constitution of the British Medical Association in Australia did not permit of its association with a body such as the Australia-Soviet Friendship Society, but that individual members were free to take whatever action they desired.

CONFEDERATION OF MEDICAL ASSOCIATIONS OF ASIA AND OCEANIA.

The General Secretary referred to correspondence with the President and Secretary-Treasurer of the Confederation of Medical Associations of Asia and Oceania in regard to conditions of membership of the Confederation and also to advice received from the President of the Fifteenth General Assembly of the Japan Medical Congress advising that a joint scientific session was scheduled under the joint auspices of the Confederation of the Medical Associations of Asia and Oceania and the Fifteenth General Assembly of the Japan Medical Congress to be held in April, 1959. The General Secretary reported that he had arranged with Dr. R. H. Natrass of Perth to represent the Federal Council at the meeting. The action of the General Secretary was approved.

INTERNATIONAL UNION OF ASSOCIATIONS OF DOCTOR-MOTORISTS.

The General Secretary referred to further correspondence that had taken place with the International Union of Associations of Doctor-Motorists in relation to conditions of membership. It was decided that no further action should be taken.

INSTITUTE OF UNIVERSAL MEDICINE, DELHI, INDIA.

The General Secretary read a copy of a questionnaire that had been received from the Institute of Universal Medicine, Delhi, India, in regard to the art, science and philosophy of medicine, together with information about the Institute and its aims. He advised that he had sent a suitable reply to the questionnaire.

NATIONAL MARRIAGE GUIDANCE COUNCIL OF AUSTRALIA.

A report was received from Dr. R. Southby, the representative of the Federal Council at the annual meeting of the National Marriage Council of Australia held in September, 1958. Dr. Southby was thanked for his report.

FORMOSAN MEDICAL ASSOCIATION.

A letter was received from Dr. A. H. Penington, a member of the Victorian Branch at present attached to the United Nations in Formosa, suggesting that the Federal Council extend greetings to the Formosan Medical Association, meetings of which he had attended and was to attend. It was resolved that the greetings of the Federal Council be extended to the Formosan Medical Association as suggested by Dr. Penington.

AUSTRALIAN ADVISORY COUNCIL FOR THE PHYSICALLY HANDICAPPED.

An invitation was received from the Australian Advisory Council for the Physically Handicapped to nominate a representative to a committee that would select an Australian physician for a fellowship to be established by the World Rehabilitation Fund and the International Society for the Welfare of Cripples, for the purpose of studying abroad in the field of rehabilitation. The Fellowship was to be known as the Frank H. Rowe Memorial Fellowship for Post-Graduate Training in Physical Medicine and Rehabilitation. It was resolved that Dr. Leigh T. Wedlick be nominated as the representative of the Federal Council on the selection panel.

AUSTRALASIAN MEDICAL CONGRESS (B.M.A.).

Tenth Session.

A final financial statement was received from the accountant of the Federal Council relating to the Tenth Session of the Australasian Medical Congress (B.M.A.) held in Hobart from March 1 to 7, 1958.

Eleventh Session.

A letter was received from the South Australian Branch nominating Dr. C. O. F. Rieger for appointment as President of the Eleventh Session of the Australasian Medical Congress (B.M.A.) to be held in Adelaide in 1962. The Federal Council approved the appointment.

AUSTRALASIAN MEDICAL PUBLISHING COMPANY LIMITED.

Directors' Meeting.

The General Secretary drew attention to the notice of the meeting of Directors of the Australasian Medical Publishing Company Limited to be held on March 25, 1959, at The Printing House, Seamer Street, Glebe, New South Wales.

The Medical Journal of Australia: Per-Capita Payment.

A letter was received from the Australasian Medical Publishing Company Limited advising that there would be no alteration in the present per-capita payment of one pound to THE MEDICAL JOURNAL OF AUSTRALIA, of which ten shillings was for the supply of the Journal and ten shillings was for credit to the Building Fund Trust Account, for which Series "E" Debentures would be issued to the several Branches.

After discussion the Federal Council resolved that the Australasian Medical Publishing Company Limited be asked to give consideration to the question of reducing the amount of the per-capita payment for the supply of THE MEDICAL JOURNAL OF AUSTRALIA to members.

At a later stage of the meeting it was reported that the request of the Federal Council for a reduction in the per-capita payment for supply of THE MEDICAL JOURNAL OF AUSTRALIA had been considered by the Directors of the Australasian Medical Publishing Company Limited, and they had decided to reduce for the year 1960 the per-capita payment to five shillings, such amount to be credited to the several Branches as debentures in the Building Fund account. The Federal Council resolved to extend its thanks to the Directors of the Publishing Company for their generous action.

"Family Doctor."

At the meeting of the Federal Council in February, 1958, it was decided to defer consideration of the publication of *Family Doctor* for twelve months. The General Secretary reported that in the meantime he had discussed the matter further with the Manager of the Australasian Medical Publishing Company Limited.

The Federal Council resolved after discussion that no further action be taken at the present time in regard to the publication of *Family Doctor* in Australia.

PROCEDURE IN MEDICO-POLITICAL NEGOTIATIONS.

At the meeting of the Federal Council in September, 1958, after discussion on the relations between the Federal Council and the various colleges and associations within the profession with regard to medico-political negotiations, it was decided that the matter of a meeting between the President of the Federal Council and the Chairman of the Executive of the Royal Australian College of Surgeons to discuss the subject be left in the hands of the President. Subsequently correspondence took place between the President of the Federal Council and the President of the Royal Australasian College of Surgeons, as a result of which mutual understanding was established and a bilateral

agreement accepted. The basis of the agreement was that the Federal Council would undertake to set in motion the machinery laid down in a resolution passed in Hobart in February, 1958, to the effect that whenever necessary or desirable an invitation would be extended to the various colleges and associations concerned to nominate representatives who might be co-opted to a committee of the Federal Council to consider matters in the interest of the college or association concerned; the College on the other hand would undertake before initiating separate negotiations with government bodies to inform the Federal Council of its intention to do so, and would be prepared to consider the advisability of inviting a representative of the Federal Council to be present at the meeting of any committee which the College might appoint dealing with the particular matter involved. The difficulties that had been raised in regard to negotiations with insurance underwriters were overcome by the Council of the College empowering its State committees to deal with insurance matters in their particular States, and a request being made to the State Branches of the B.M.A. to approach the College in all such matters in accordance with the terms of the general agreement.

After discussion the Federal Council resolved to approve the basis of the agreement entered into. It was further resolved that the Federal Council did not consider it advisable at present to call a conference between the three Royal Colleges, the College of General Practitioners and the Federal Council to discuss the question of negotiations on medico-political matters.

BRITISH MEDICAL ASSOCIATION HOUSE, PERTH.

The General Secretary reported that he had attended the official opening of the new British Medical Association House, Perth, on October 25, 1958.

NATIONAL HEALTH SERVICE.

National Health Act.

The General Secretary referred to the amendments to the *National Health Act* that had been made towards the end of 1958 in the form of the "*National Health Act, No. 68, of 1958: an Act to amend the National Health Act, 1958-1959*".

Future of the National Health Service.

At its meeting in September, 1958, the Federal Council considered in detail the proposals of the Minister of Health to amend the *National Health Act* to provide full and immediate coverage of medical and hospital benefits for hospital contributors suffering from chronic and pre-existing diseases, and resolved that, while it expressed its satisfaction with the principles of the proposal of the Minister for Health, it believed that the details of those proposals demanded the consideration of the Commonwealth Health Insurance Council. A letter was subsequently addressed to the Minister requesting that consideration be given to convening a meeting of the Council for that specific purpose as soon as practicable. The Minister in reply had given reasons why he felt that it was not an opportune time to call a meeting of the Council. Subsequently a notice was received advising of the inaugural meeting of the Council to take place on April 27 and 28, 1959.

A discussion took place on correspondence that had been exchanged with the Minister for Health in relation to the wording of pamphlets to be placed in waiting rooms explaining the extension of the National Health Scheme with regard to chronic and pre-existing disease.

At its meeting in September, 1958, the Federal Council authorized the preparation of an article to be published in all States under the signature of the President about the virtues of the National Health Scheme and in particular about the proposed new amendments to the *National Health Act*. It was reported that the article had been prepared and had been published in the Press in all States on November 14, 1958.

The General Secretary reported that he had written to Dr. D. A. Cameron, Federal Minister for Health, extending the congratulations of the Federal Council on his reelection to Parliament and assuring him of the cooperation of the Federal Council in the further development of the National Health Service.

PENSIONER MEDICAL SERVICE.

At the meeting of the Federal Council in September, 1958, a recommendation was received from the New South Wales Branch that the present Pensioner Medical Service form be amended by the omission of the patient's address. The Federal Council, after consideration of views of the several branches, rejected the recommendation. Sub-

sequently the Western Australian Branch recommended that the New South Wales Branch's recommendation be resubmitted for reconsideration. It was pointed out that on the voucher in question the pensioner was already identified by christian name, surname and number. The address was frequently misleading rather than helpful, because (a) if the doctor supplied the address on the entitlement card, he not infrequently found that it was out of date and had not been changed, and (b) if the doctor supplied the address at which he saw the patient, the address was often that of a relative or a friend or at a holiday resort; it was not the address on the card. Hence it in no way identified the pensioner. After further discussion the Federal Council decided to recommend to the Minister of Health that the pensioner's address be deleted from the Pensioner Medical Service voucher form.

A letter was received from the New South Wales Branch enclosing a copy of correspondence between a member of the Branch and the Commonwealth Department of Health in relation to mileage in a country area. As a result of repeated representations the Department had conceded the member's claim in a manner that was most satisfactory. It appeared, however, that it was a decision in an individual case, and that no principle had been established.

The General Secretary referred to a letter from the Queensland Branch in which an inquiry had been made whether the pensioner medical service had been extended to include any further groups of pensioners. He pointed out that, although the number of pensioners had increased for normal reasons, there had been no increase in the groups of pensioners included in the Pensioner Medical Service. The Queensland Branch had been advised accordingly.

A letter was received from the Queensland Branch requesting that consideration be given to increasing the "out of hours" fee from five shillings to ten shillings. The General Secretary reported that the matter had been referred to the Branches and had received no support. The Federal Council took no action in the matter.

GENERAL PHARMACEUTICAL BENEFITS.

The General Secretary referred to a number of requests that had been received from the Branches for additions to the list of benefits allowed under the Pharmaceutical Benefits Regulations. He said that the recommendations had been forwarded to the appropriate authorities.

MEDICAL SERVICES COMMITTEES OF INQUIRY.

The General Secretary referred to a number of decisions that had been made as the result of the deliberations of the Medical Services Committees of Inquiry. In one case a medical practitioner had been disallowed part of his claim, and in seven cases medical practitioners had been reprimanded by the Minister.

Advice was received from the Minister for Health of the appointment of Dr. Sholto J. Douglas to the Medical Services Committee of Inquiry for the State of South Australia in place of Dr. F. L. Wall, deceased. A letter was also received from the South Australian Branch advising that Dr. C. Yeatman had died and that his son, Dr. J. C. Yeatman, had been nominated to fill his place.

Legal Representation.

At the meeting of the Federal Council in September, 1958, it was resolved that the matter of legal representation of medical practitioners appearing before Committees of Inquiry be taken up with the Minister for Health. The General Secretary reported that he had referred the matter to the Minister for Health, who was still investigating the matter.

MEDICAL BENEFITS.

Anomalies in the Schedule of Benefits.

At a meeting of the Federal Council in September, 1958, it was resolved that the members of the deputation appointed by the Federal Council at its meeting in Adelaide in August, 1957 (namely, the President, Dr. H. C. Colville, the Vice-President, Dr. A. J. Murray, Dr. A. E. Lee and the General Secretary) prepare a revised schedule of medical benefits under the *National Health Act* for submission to the next meeting of the Federal Council. Subsequently correspondence took place with the Royal Colleges and other groups interested, and a large amount of material was made available from each group listing the anomalies as they affected the particular group concerned. The New South Wales Branch forwarded a letter to the Federal Council, and amongst the suggestions offered was one that the Federal Council request the Federal Government to constitute a Schedule of Medical Benefits Advisory Committee. The Victorian Branch in a letter recommended

that the items in the schedule of benefits should be grouped into categories, each category to carry a benefit for an amount to be determined, and also that representation be made to the Federal Government for an increase in the maximum Commonwealth benefit payable.

The Federal Council discussed the matter fully, particularly in the light of a letter from Dr. A. E. Lee, in which he considered many aspects of the matter in detail. Three resolutions were then adopted. The first was that the Minister for Health be requested to constitute a Medical Benefits Advisory Committee. The second was that the Minister for Health be informed that the Federal Council was of the opinion that the constitution of such a Medical Benefits Advisory Committee should be: four representatives of the medical profession, two representatives of registered medical benefit organizations, one representative of the contributors, and one representative of the Government. The third resolution was that the Federal Council request the Federal Government to review the Schedule of Benefits to allow a greater benefit than the present maximum benefit for certain major surgical operations. The Victorian Branch's request that the items in the Schedule of Benefits should be grouped into categories, each category to carry a benefit of an amount to be determined, was not accepted.

After further consideration of detailed aspects of the Schedule of Benefits the following resolutions were adopted.

Part 1. Professional Attendances not covered by any other Item: That a request be made to the Minister for Health that the limit on Fund Benefits imposed in Item 1 be removed.

Item 1. Part 1. General Practitioner visits: That the Federal Council is of the opinion that the Commonwealth benefit for a general practitioner visit should be Seven shillings and Sixpence (7/6) instead of Six shillings (6/-) as at present.

Item 2. Part 1. Benefit for Patients referred to Specialist: That the Federal Council is of the opinion that the Commonwealth Benefit for professional attendance by a specialist in the practice of his specialty when patient is referred by another medical practitioner should be: for the first attendance Twenty-seven shillings (27/-) instead of Twenty shillings (20/-) as at present.

Proposed New Item. "Specialist (Consultant) Home or Hospital Visit": That the Federal Council request the Minister for Health to take steps to amend the Schedule of Benefits to include a new Item, viz. "Specialist (Consultant) Home or Hospital Visit".

Proposed New Item. Commonwealth Benefit: That the Federal Council is of the opinion that the Commonwealth Benefit for the proposed new Item "Specialist (Consultant) Home or Hospital Visit" should be £17.6.

Item 4. Part 1. Professional attendance by a specialist in the practice of his specialty when patient is not referred by another medical practitioner: That the Federal Council is of the opinion that the Commonwealth Benefit under Part 1, Item 4, "Professional attendance by a specialist in the practice of his specialty when patient is not referred by another medical practitioner", should be Fifteen shillings (15/-) for the first attendance and Ten shillings (10/-) for each subsequent attendance.

All Items after Part 1: That consideration of all Items in the Schedule of Benefits after Part 1 (Professional Attendances not covered by any other Item) be left in the hands of the Committee appointed to consider anomalies (Min. 2098a (f). (1)1. 4th September, 1958), with power to act.

Item 218. Antenatal care, confinement and postnatal care for nine days (excluding any service or services covered by Division 2 of this Part): That the Federal Council is of the opinion that the Commonwealth Benefit payable in respect of Item 218 (Antenatal care, confinement and postnatal care for nine days (excluding any service or services covered by Division 2 of this Part)) be increased from £3.15.0 to £4.10.0.

Proposed Supplementary Schedule: Major Procedures: That the Minister for Health be requested to give favourable consideration to the introduction of a Supplementary Schedule by Medical Benefit organizations to provide increased benefits for major procedures.

Item D.71. Colposcopic Examination.

In January, 1959, the New South Wales Branch sent a letter to the Federal Council drawing attention to Item D.71 in the Schedule of Benefits, in which a benefit of

£11.0.0 was provided for colposcopic examination. The letter pointed out that as colposcopy was an incidental part of most vaginal examinations, it was difficult to understand why such a benefit should be payable. The matter was taken up with the Director-General of Health, who advised that the determination was made after representations from Adelaide that there was no item in the schedule covering the method of colposcopic examination of the cervix introduced by Hinselmann. The Director-General stated that, if necessary, he would be glad to review the determination. The New South Wales Branch Council therefore recommended that the item be deleted from the schedule of benefits. The matter was then referred to the Branches.

However, at the meeting the New South Wales delegates pointed out that the matter had been further considered and that it was realized that the item was meant to refer to a specialized examination involving expensive apparatus. It was therefore resolved that the Minister for Health be requested to withdraw the present Item D.71, and replace it with the following item: "Examination of the uterine cervix by a magnifying colposcope of the Hinselmann type or similar instrument . . . £11.0s."

ELECTRO-CONVULSIVE THERAPY AND INTRAVENOUS ANÆSTHESIA.

A letter was received from the Commonwealth Director-General of Health inquiring whether it was good practice for one doctor to give electro-convulsive therapy whilst at the same time administering an anæsthetic. It was pointed out that item 542 of the Second Schedule provided a benefit of fifteen shillings for electro-convulsive therapy when given without intravenous anæsthesia. Item 543 provided for a benefit of £11.0s. when electro-convulsive therapy was given with intravenous anæsthesia. The matter was referred to the Branches, and the Federal Council discussed the matter in the light of the replies. The opinion was finally expressed that it was good practice for a psychiatrist to give electro-convulsive therapy whilst at the same time administering an anæsthetic.

SERVICES RENDERED ON BEHALF OF MEDICAL PRACTITIONERS.

At the meeting of the Federal Council in September, 1958, it was resolved to obtain legal opinion on the relevant sections of the *National Health Act* regarding the definition of professional services, with particular reference to the question or services rendered on behalf of medical practitioners and the payment of medical benefits for those services. In the light of the opinion furnished by the Association's legal advisers, it was decided to make a further approach to the Minister for Health on the question of the payment of a benefit when a patient received services from a person other than a legally qualified medical practitioner, or an employee of a legally qualified medical practitioner, and to forward a copy of the opinion of the Federal Council's legal adviser to the Minister.

STATISTICS ON MEDICAL AND HOSPITAL BENEFITS.

The General Secretary referred to a bulletin of statistics relating to medical and hospital benefits schemes which had been supplied by the Director-General of Health. It covered the six months ended June 30, 1958.

HOSPITAL BENEFITS.

Discussion took place on the registration of approved hospitals or institutions providing for the care and treatment of chronically ill patients. Evidence was brought forward to indicate that there were many anomalies in relation to the registration of such institutions in the light of the recent changes in legislation. A request was received from the Victorian Branch Council that the Federal Council urge the Minister for Health that "Fund Benefit" should be payable from Special Accounts in relation to the medical condition of the contributor, and not to the hospital in which he occupied a bed. The Victorian Branch Council said that they had submitted the matter to the Federal Council because, despite statements by the Minister for Health that with the establishment of the "Special Accounts" no contributor to a benefit or organization would lose and many would gain, the reverse had happened in Victoria, as the Commonwealth had refused to recognize many small private hospitals for the purpose of Section 83 (h) and the inmates of those hospitals were thus debarred from receiving "Fund" benefit.

After discussion it was resolved to approach the Minister for Health in the terms of the Victorian Branch recommendation.

COMMONWEALTH HEALTH INSURANCE COUNCIL.

A letter was received from the Director-General of Health advising that preliminary arrangements were being

made to hold the inaugural meeting of the Commonwealth Health Insurance Council in Canberra on April 27 and 28, 1959. Advice regarding detailed arrangements had been forwarded to the Federal Council's representative, Dr. A. E. Lee, and a copy of the tentative agenda was enclosed. An invitation was extended for other items to be suggested for inclusion in the final agenda. The Federal Council resolved to recommend to the Director-General of Health that the need for a complete revision of the Schedule of Benefits be considered at the meeting. It was also decided to approve of the setting up by the Government of Medical and Hospital Benefits Committees of Inquiry, as an item to be included in the tentative agenda.

HOSPITAL POLICY.

Staffing of Country (Including Base) Hospitals in New South Wales.

The New South Wales Branch forwarded for information a copy of the policy of the Branch on the staffing of country (including base) hospitals in New South Wales.

RIGHT OF PRIVATE PRACTICE FOR SALARIED PATHOLOGISTS.

A letter was received from the College of Pathologists of Australia, in which the view was expressed that it was wrong in principle that hospitals should collect private fees in which a pathologist did not share, and requesting that the question be considered by the Federal Council.

After discussion the Federal Council approved the submission of the College of Pathologists of Australia that it was wrong in principle that hospitals should collect private fees in which a pathologist did not share, and expressed the opinion that, where such services were carried out for a private patient and a fee was charged, the account should be rendered by the doctor, who should refund an agreed portion of the fee to the hospital.

VACCINATION AGAINST POLIOMYELITIS.

Further consideration was given to the suggestion that Salk vaccine be made available for use by private practitioners. A letter was quoted from the Minister for Health in which he regretted that he was not yet able to do more than repeat his previous assurance that poliomyelitis vaccine would be released for private practitioners when State campaigns had been completed. He said that the progress of adult immunization had been slow in States where that had been undertaken by local health authorities. Therefore it might be some time before he could review the present policy.

The Federal Council decided to make a further approach to the Minister for Health and to express the belief that the immunization of the community was being retarded by the failure to make Salk vaccine available to general practitioners.

RADIATION PROBLEMS.

At the meeting of the Federal Council in September, 1958, it was decided to protest to the Minister for Health on the action of the Government in releasing the report of the National Radiation Advisory Committee to the Press before its contents were known to members of the medical profession. Appropriate representation was subsequently made to the Minister, who pointed out the difficulties that might be involved in such a procedure. He gave his assurance that any Press releases concerning radiation hazards which were put out in the future by himself would be checked by his scientific officers as was the usual custom. However, he promised to bear in mind the representation that the Federal Council and the Royal Colleges should be given the opportunity to examine such reports at the time of their release if it was at all possible.

The President then referred to the resolution of the Federal Council regarding preparation of a statement for release by the Federal Council. He explained what had happened and the reasons why a statement had not been released. The Federal Council approved the President's decision not to publish a statement on the subject.

MEDICAL EDUCATION.

A copy was received from the New South Wales Branch of the Report on Medical Education prepared by the Branch, relating to student numbers and the problem of the establishment of a second medical school.

CANCER RESEARCH.

A letter was received from the Queensland Branch forwarding for the consideration of the Federal Council, with a view to an approach to the Commonwealth Government, the following resolution received from the Townsville Local Medical Association: "That either the Rockefeller Founda-

tion or the Ford Foundation be asked if they would establish a research team in Brisbane (in conjunction with which the University of Queensland would work) to investigate the effects of sunlight on the skin and in particular its carcinogenic effects and that a field station for this research be also established in North Queensland by these bodies."

The Federal Council decided to request the National Health and Medical Research Council to give consideration to an approach to the foundations concerned in the terms of the resolution of the Townsville Local Medical Association.

PUBLIC RELATIONS.

"Pageant of the Ten Million."

A copy was received from the President, Dr. H. C. Colville, of an article, entitled "Pageant of the Ten Million", which he had written at the request of *The Sydney Morning Herald* for publication in a special supplement in March, 1959, relating to the point at which the population of Australia had reached ten million.

"Getting Married."

A letter was received from the Queensland Branch expressing the opinion that the booklet "Getting Married", which was published as a supplement to the *Australian Women's Weekly* on September 17, 1958, was most unsuitable to be associated with the British Medical Association. The General Secretary said that he had advised the Queensland Branch that the booklet had been prepared by the Parent Body, who had arranged its publication with the *Australian Women's Weekly*, and that the British Medical Association in Australia was not associated with the publication.

Appointment of Ophthalmic Panels.

The General Secretary referred to a letter from the Ophthalmological Society of Australia (B.M.A.) asking the Federal Council to approve the appointment by the State Sections of the Society of certain members to act as spokesmen in collaboration with the local sections of the British Medical Association when necessary. It was intended that the mechanism would be used only when circumstances demanded a prompt opinion from the Society.

The Federal Council approved the request.

Canberra Information Services.

The General Secretary pointed out that the service provided by the Canberra Information Services had been very satisfactory and that the agreement with the Services had been renewed.

The Federal Council approved the action of the Honorary Treasurer and the General Secretary in renewing the agreement with the Canberra Information Services as from March 1, 1959.

SPECIAL GROUPS.

Ophthalmological Society of Australia (B.M.A.).

The General Secretary referred to a letter received from the Ophthalmological Society of Australia (B.M.A.) drawing attention to favourable comments made over the ABC news service on September 28 and 29, 1958, on the National Pensioner Optometrical Service of the Australian Optometrical Association, and inquiring if some statement could be made by the Federal Council on the work done over the years at public hospitals free of charge for pensioners by members of the profession engaged in ophthalmic practice. The General Secretary advised that subsequently a talk was given over the air by the New South Wales Branch under the title "Your Eyes as You Get Older", and in the talk reference was made to the services rendered at public hospitals by members of the profession.

The Society forwarded a notice of their eighteenth general scientific meeting to be held in Hobart from November 9 to 13, 1959, and invited members of the Federal Council to be present.

COLLEGE OF GENERAL PRACTITIONERS.

A letter was received from the College of General Practitioners inquiring what further progress had been made in carrying out the recommendations of the conference on surgical training of general practitioners held in Melbourne in December, 1957.

The Federal Council expressed the view that, now that suitable arrangements had been made, the matter was one between the College of General Practitioners and the Australian Post-Graduate Federation in Medicine.

COLLEGE OF PATHOLOGISTS IN AUSTRALIA.

A letter was received from the College of Pathologists of Australia enclosing a report on a superannuation scheme for salaried pathologists and requesting consideration of the matter by the Federal Council. After discussion and consideration of the views of the individual Branches on the subject, the Federal Council resolved to support in principle the establishment of a superannuation scheme for salaried pathologists, but expressed the opinion that it was impracticable to implement such a scheme on a Commonwealth-wide basis.

MEDICAL ETHICS.

Professional Secrecy.

The General Secretary reported that he had sent to the Branches a copy of the Judgement of the Honourable the Chief Justice, Mr. Justice Barrowclough, delivered in the Supreme Court of New Zealand on February 19, 1957, in the case of *Furniss v. Fitchett*.

Company Formation.

The General Secretary reported that he had sent to the Branches a copy of a communication relative to the question of company formation by medical practitioners, received from the solicitors to the South Australian Branch, and forwarded by that Branch for the information of the Federal Council.

AUSTRALIAN POST-GRADUATE FEDERATION IN MEDICINE.

The General Secretary reported the receipt of a notice of the annual meeting of the Australian Post-Graduate Federation in Medicine held on October 11, 1958, and of the minutes, annual report and annual financial statement of the Federation. He had also received copies of the minutes of meetings of the executive of the Federation.

BRITISH MEDICAL ASSOCIATION.

A further discussion took place about the proposal of the Council of the Parent Body of the British Medical Association to raise the overseas subscription rate for members of the Association. A letter was received from the Secretary of the Parent Body advising that the Council had after most careful consideration decided to recommend to the Representative Body at its meeting in July, 1959, that the standard rate of subscription should be raised from six guineas to nine guineas from January 1, 1960, and that the rate for members resident outside the United Kingdom be raised from two guineas to three guineas, exclusive of any local subscription. The reasons for the increase would be fully set out in the Council's report to the Representative Body, but it was mainly due to the constantly rising cost of maintaining the Association's essential services and to enable it to carry on its expanding activities.

On February 4, 1959, the executive officers of the Federal Council, at a meeting in Sydney, recommended to the Branches that a strong appeal be made to members to agree to the proposal of the Parent Body. In a letter sent by the executive officers to the Branches at that time, they pointed out that they were fully aware of the fact that there was an increasing number of members who said that the profession in Australia should have its own Australian Medical Association, independent of, but affiliated with, the British Medical Association. Moreover, they were of the opinion that that would inevitably take place. However, the executive officers were firmly of the opinion that it would not redound to the credit of the profession in Australia if the reason for breaking away from the Parent Body was an increase in the overseas rate of subscription. The executive officers would consider the drawing up of a constitution for an Australian Medical Association, with a view to its adoption in the near future.

The Federal Council, after discussion, endorsed the action of the executive officers. At the same time it resolved to take the necessary steps to investigate the possibility of formation of a Medical Association of Australia. It was emphasized in the discussion that the matter was necessarily one for the individual State Branches, and one of the first matters that would have to be decided would be the position of the Federal Council or some other Federal body in such an association. It seemed clear that the time was right for the formation of such an association in Australia, and the idea was fully accepted by leaders of the Parent Body.

Annual Meeting.

The General Secretary referred to the notice of the annual meeting of the British Medical Association to be held in Edinburgh from July 16 to 24, 1959.

Proleptic Appointments.

The General Secretary stated that he had received a letter from the London office advising that the Central Consultant Specialists' Committee was considering the possibilities of instituting a system of proleptic appointments and asking if there was any information in Australia on the working of such a system. The General Secretary in his reply had advised on the practice in Australia.

Retirement of Dr. A. Macrae.

The General Secretary reported that on behalf of the Federal Council he had extended good wishes to Dr. A. Macrae on his retirement from the position of Secretary of the Association.

Medical Insurance Agencies, London.

The General Secretary referred to the institution by the British Medical Association of a personal accident insurance scheme for death or permanent total disablement resulting from accident. The terms offered were exceptionally attractive, and they applied world-wide without restriction, except that applicants must be full members of the British Medical Association. Members were offered insurance units of one thousand pounds for an annual premium of ten shillings, with a maximum of ten units per member. The General Manager of the Medical Insurance Agency in London had invited the Australian Branches to participate in the scheme. The matter had been referred to the Branches with the suggestion that, if they were interested, they should communicate direct with the General Manager of the Medical Insurance Agency in London. Subsequently the Queensland Branch had written and suggested that the Federal Council be asked to administer the scheme from Sydney.

After discussion, the Federal Council resolved that the Queensland Branch be advised that the personal accident insurance scheme of the Medical Insurance Company Limited, England, should be administered on a State basis.

BRITISH COMMONWEALTH MEDICAL CONFERENCE.

The General Secretary referred to a communication received from the Parent Body in relation to the fifth British Commonwealth Medical Conference to be held in London in July, 1959. The agenda would include two matters—the method of financing the Conference and the question of widening the membership of the Conference.

After discussion the Federal Council expressed the opinion that the existing method of finance based on membership should be maintained, that the present basis of membership was still appropriate and that all member nations of the British Commonwealth should be invited to join the British Commonwealth Medical Conference.

It was resolved that Dr. M. Stuart Patterson and Dr. Hyam Owen be appointed observers at the Conference.

NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL.

The General Secretary reported that he had received the official report of the forty-fifth session of the National Health and Medical Research Council, held in Brisbane in 1958, from Dr. W. F. Simmons, the representative of the Federal Council on the National Health and Medical Research Council. Dr. Simmons had also requested advice about subjects to be brought before the forty-sixth session and subsequently forwarded a personal report of the meeting. He had now requested advice of any subjects that the Branches might wish to bring before the National Health and Medical Research Council at its meeting in May, 1959. Up to date no matters had been brought forward by the Branches.

The Federal Council expressed its thanks to Dr. Simmons for his excellent report of the forty-sixth session.

WORLD MEDICAL ASSOCIATION.

Twelfth General Assembly.

The General Secretary reported that he had received from the Secretary-General of the World Medical Association a copy of the minutes of the Twelfth General Assembly held in Copenhagen, Denmark, in August, 1958. He had also received a report on the meeting from Dr. L. R. Mallen.

Dr. Melville E. Chinner had written to express his appreciation of the honour of being a representative of the Federal Council at the Twelfth General Assembly.

Council Meetings.

The General Secretary reported that he had received a copy of a report by Dr. L. R. Mallen of the thirty-third and thirty-fourth council meetings, and had forwarded a copy to the Branches. He had also received a copy of the minutes of the meetings from the Secretary-General.

Thirty-Fifth Council Meeting.

The General Secretary advised that he had received from the Secretary-General a tentative schedule of travel and of meeting times and advice of the names of the members of the council who would be attending the thirty-fifth council meeting of the World Medical Association to be held in Sydney from March 25 to April 4, 1959. He also advised that the arrangements for the meeting had been completed by the committee appointed at the previous meeting of the Federal Council. Appreciation was expressed by members of the Federal Council of the excellent work done by the General Secretary and by Miss H. Cameron in making the necessary arrangements.

The General Secretary stated that he had received from Dr. T. C. Routley advice of the death of Dr. Gérin-Lajole on February 15, 1959. Dr. Gérin-Lajole had been President-Elect of the World Medical Association. The Canadian Medical Association had nominated Dr. R. Lemieux, Professor of Medicine at Laval University, to take his place.

"Health Care in Australia."

The General Secretary stated that a report had been prepared under the title "Health Care in Australia", in accordance with the request of the W.M.A. that the council would appreciate receiving a report from the host association on the health situation in the country. The report had been published in *THE MEDICAL JOURNAL OF AUSTRALIA* of March 21, 1959. The Federal Council expressed its thanks to Dr. Hunter for the excellent report.

Special Issue of "The Medical Journal of Australia".

Attention was drawn to the special issue of *THE MEDICAL JOURNAL OF AUSTRALIA* for March 21, 1959, prepared to commemorate the holding of the thirty-fifth council meeting of the World Medical Association in Sydney, and presenting an over-all picture of the British Medical Association in Australia. The Federal Council resolved that the directors of the Australasian Medical Publishing Company Limited and Dr. R. R. Winton, the Editor, be thanked for and congratulated on the special issue.

Thirteenth General Assembly.

The General Secretary referred to a request from the Secretary-General for names of delegates to the Thirteenth General Assembly to be held in Montreal in September, 1959. Federal Council resolved that Dr. J. G. Hunter and Dr. Hyam Owen be appointed delegates to attend the Thirteenth General Assembly and that the appointment of alternate delegates and observers be left in the hands of the executive officers.

A notice of motion was received that had been submitted by the British Medical Association for the Thirteenth General Assembly, to the effect that the World Medical Association press for a reconstitution of the World Health Organization with a view to the establishment of a body more representative of the medical associations of the member countries. After discussion the Federal Council resolved to support the motion to be submitted by the British Medical Association, and also to make further representations to the Commonwealth Minister for Health that a member of the practising profession in Australia be included in delegations at meetings of the World Health Organization and of the International Labour Office.

Discussion then took place on the proposed amendment to the constitution and by-laws of the World Medical Association to provide for the inclusion of the German language along with the English, French and Spanish languages as the official languages of the Association. Dr. Louis Bauer, who was present at the meeting of the Federal Council as an observer, explained the difficulties and extra expense that would be involved in the introduction of another official language. However, after discussion the Federal Council decided to approve in principle of the inclusion of German as one of the official languages of the World Medical Association.

Finances.

Discussion took place on the financial status of member associations of the World Medical Association and of the number of units of finance (each of one thousand dollars) to be paid as an annual subscription. The Federal Council resolved that the number of units of finance to be paid

by the Federal Council to the World Medical Association as an annual subscription be four.

Secretary-General's Newsletters.

The General Secretary reported the receipt of Secretary-General's newsletters numbered from 52 to 58, copies of which had been forwarded to the Branches.

Resignation of New Zealand Branch.

The General Secretary read a copy of a letter written by the Secretary-General to the New Zealand Branch of the B.M.A., expressing his regret at the fact that the Branch had resigned as a constituent member of the World Medical Association. The General Secretary advised that he had also written directly to the New Zealand Branch expressing regret at their action. Dr. Mallen stated that he also had written a personal letter to the New Zealand Branch.

Second World Conference on Medical Education.

The General Secretary said that he had received a copy of the provisional programme of the Second World Conference on Medical Education to be held in Chicago from August 30 to September 4, 1959.

Supporting Committee in Australia.

The General Secretary referred to the contributions of the Australian Branches to the Australian supporting committee of the World Medical Association.

Secretary for Australasia.

The General Secretary reported that he had been appointed Secretary for Australasia at the thirty-fourth council session and that he had submitted a report on social services in Australia in 1958.

Central Repository for Medical Credentials.

The General Secretary reported that he had received inquiries from nine members of the British Medical Association in Australia regarding the Central Repository for Medical Credentials.

Mongolian Idiotcy.

The General Secretary reported that he had received from the Secretary-General of the World Medical Association, on behalf of a group of pediatric professors in medical schools in California, a request for information regarding the term used in describing mental deficiency associated with mongolism in Australia. After correspondence with Professor W. H. Trethowan, Professor of Psychiatry in the University of Sydney, he had submitted the required information.

Universal Fingerprinting of Medical Practitioners.

A letter was received from the New South Wales Branch recommending that the Federal Council seek the views of the World Medical Association in regard to the universal fingerprinting of medical practitioners. The matter had been referred to the Branches. The South Australian, the Western Australian and Tasmanian Branches had supported it, the Queensland Branch had expressed its disapproval, and the Victorian Branch had left the matter in the hands of its delegates. After discussion the Federal Council decided to seek the views of the World Medical Association in regard to the universal fingerprinting of medical practitioners.

Current Situation of Cuban Doctors.

A letter was received from the Secretary-General advising of the current situation of Cuban doctors, which was now much more satisfactory.

FEDERAL COUNCIL MEDICAL MONOGRAPH FUND.

The Honorary Treasurer presented the financial statement of the Federal Council Medical Monograph Fund for the year ended December 31, 1958. The sales of Monograph No. 1 had produced £84, and the credit balance of the account now stood at £2350.

It was reported that Dr. Peter F. Hall had submitted an application for publication by the Fund of his monograph on "Gynecomastia". The application had been approved by the trustees, and the monograph was now being prepared by the Australasian Medical Publishing Company Limited. The Federal Council approved of the action of the trustees in accepting the monograph for publication.

The General Secretary reported that he had just received another monograph with an application for its publication by the Fund, but the matter had not yet been dealt with.

REPATRIATION DEPARTMENT.

Medical Benefits for Widows, Widowed Mothers and Orphans of Deceased Servicemen.

At the meeting of the Federal Council in September, 1958, it was resolved that notice of termination of the agreement with the Repatriation Department for the provision of medical services for widows, widowed mothers and orphans of deceased ex-servicemen be given to the Repatriation Department with effect from a date to be determined, and that the matter of the provision of medical services to widows, widowed mothers and orphans of deceased ex-servicemen be left in the hands of a committee consisting of the President, Dr. H. C. Colville, and Dr. J. G. Johnson. Subsequently a conference took place between the committee and the Chairman of the Repatriation Commission, Brigadier F. O. Chilton, and the Principal Medical Officer of the Division, Dr. W. E. Langford. After discussion, an agreement was arrived at for the terms and conditions of service for medical practitioners providing the service. The President stated that, as the proposals consisted almost entirely of matters of policy which the Council had already approved, he had taken the responsibility of accepting them on behalf of the Federal Council. The new agreement came into effect on January 1, 1959. It operated on a fee-for-service basis, beneficiaries being required to sign the repatriation vouchers to authorize payment to the medical officer.

Local Medical Officers.

The General Secretary referred to a letter from the Chairman of the Repatriation Commission advising that it was anticipated that the new voucher system for the use of local medical officers would be ready for implementation by the end of 1958. The Federal Council discussed a recommendation from the New South Wales Branch in relation to certain details of the vouchers, but decided that, as negotiations had just been completed, it was inappropriate at the present time to ask the Repatriation Department to amend the fee-for-service voucher forms.

Special Fees for Intramuscular and Intravenous Injections.

A letter was received from the New South Wales Branch recommending that a request be made to the Repatriation Commission that special fees for intramuscular and intravenous injections be deleted from repatriation agreements. The matter had been referred to the Branches and had been supported by the Western Australian Branch, but not approved by the other Branches. The Federal Council resolved not to accept the recommendation of the New South Wales Branch.

Visiting Medical Officers.

At the meeting of the Federal Council in August, 1957, it was resolved to make a further approach to the Minister for Repatriation in regard to matters referred to the Federal Council by the Royal Australasian College of Surgeons and The Royal Australasian College of Physicians with regard to visiting medical officers at Repatriation Department Hospitals, and also that the President should be empowered to coopt a representative of each of the two Colleges concerned to any conference with the Minister for Repatriation. The conference eventually took place on October 31, 1958. Detailed reports of the meeting were submitted to Federal Council. It was reported that an agreement had been reached, firstly, that the Repatriation Commission would give earnest consideration to the suggestion of the deputation that visiting surgeons and physicians working in repatriation hospitals should have complete responsibility for patients admitted under their care and that beds should be allotted to them, and secondly, that the Commission would also consider the advisability of appointing joint committees of officers of the Commission and such representatives of the specialist bodies as the Royal Colleges both at Commonwealth and State levels to confer on the best means of improving the treatment in Repatriation Hospitals of ex-servicemen and ex-service-women.

Form M.F.9a (Revised), 1957.

A letter was received from the New South Wales Branch recommending to the Federal Council that it should continue to press for an increase in the fee for completion of form M.F.9a (revised), 1957, to two guineas. The fee had previously been increased from one guinea to one pound eleven shillings and sixpence. The Federal Council agreed to act in accordance with the New South Wales Branch's recommendation.

British Ministry of Pensions and National Insurance: Fees for Report.

At the meeting of the Federal Council in September, 1958, it had been decided that the fee (9s. 4d.) paid to medical practitioners for furnishing the Repatriation Department with a copy of clinical notes on a patient who was a subject to the claim for benefits from the British Ministry of Pensions and National Insurance was inadequate, and that the fee should be one guinea. Subsequently a letter was received from the Chairman of the Repatriation Commission advising that the completion of the form could not be regarded as comparable with the furnishing of clinical notes. However, where a copy of clinical notes was required, then a fee of one guinea would be paid.

The matter was referred to the Branches, and after consideration of their replies, the Federal Council resolved to make further representations to the Repatriation Department for an increase in the fee for the completion of the form from 9s. 4d. to one guinea.

Report of the Repatriation Commission.

The General Secretary reported that he had received a copy of the report of the Repatriation Commission for the year 1957-1958.

DEPARTMENT OF SOCIAL SERVICES.

Fees for Examination of Patients.

The General Secretary reported that he had received a letter from the Australasian Association of Psychiatrists expressing appreciation of the action taken by the Council in negotiating with the Department of Social Services an increase in the psychiatrists' fees for examination and report on invalid pensioners.

As a result of previous discussions, representations were made by the Federal Council to the Department of Social Services to have the amount of sessional fees paid to general practitioners increased to three guineas for the first hour and one guinea for each additional half hour or part thereof. The General Secretary reported that the Director-General of Social Services had advised that the matter had been submitted to the Department of the Treasury for determination, and the decision was that the increase would not be justified at present owing to the relatively small increase in living costs since the existing sessional fees for general practitioners had been fixed. A letter was received from the New South Wales Branch requesting that the Federal Council press again to have the fees payable to general practitioners increased, and the Federal Council resolved to approach the Department of Social Services again, making strong representations that the fees be as originally requested.

Rehabilitation.

A letter was received from the South Australian Branch calling attention to the high cost of providing artificial limbs and essential appliances for certain categories of persons undergoing rehabilitation training provided by the Department of Social Services. The letter stated that it appeared that persons with an accepted disability were provided with those appliances at the expense of the Department. However, there was apparently another group of persons, who were not eligible for sickness benefits or for a pension, who were required to provide their own aids, often at considerable financial hardship. The Council of the South Australian Branch was of the opinion that persons who were undergoing rehabilitation training, but who were ineligible for sickness and pension benefits, should be able to purchase the artificial limbs and appliances on a hire-purchase basis financed by the Commonwealth Government. After discussion the Federal Council resolved to recommend to the Department of Social Services that persons who were undergoing rehabilitation training, but who were ineligible for sickness and pension benefits, should be able to purchase their artificial limbs and appliances on a hire-purchase basis financed by the Commonwealth Government.

SOCIAL SERVICES CONSOLIDATION ACT, 1947: SECTION 141.

A letter was received from the New South Wales Branch referring to the power given to the Director-General of Social Services and others in terms of the *Social Services Consolidation Act, 1947*, to require a person to supply information about a pensioner. The New South Wales Branch recommended that the principle be observed that no information be supplied about a patient without the patient's consent. After discussion the Federal Council reaffirmed the principle that no information of a medical nature should be supplied without the patient's consent.

DEPARTMENT OF THE ARMY.

A letter was received from the Queensland Branch asking that the following recommendation be made: (a) that area medical officers should be paid the normal fees in private practice for services rendered to the armed forces, and (b) that for examinations of new recruits the remuneration should be on a fee-for-service basis of one guinea per recruit for up to six examinations or on a sessional basis of a fee of five guineas per hour. After discussion the Federal Council resolved to request the Department of the Army to pay the following fees to area medical officers: for attendance at practitioner's surgery, fifteen shillings; for a visit to a patient's home, one pound. The Federal Council also reaffirmed its previous decision that payments should be made at the rate of three guineas for the first hour or part thereof and one guinea for each subsequent half-hour for the examination of new recruits.

DEPARTMENT OF LABOUR AND NATIONAL SERVICE.

National Conference on Industrial Safety.

The General Secretary reported that he had attended the National Conference on Industrial Safety held at Canberra on September 26 and 27, 1958, as a representative of the Federal Council. He submitted a report on the conference and referred to a printed report on the conference that had been issued.

Instruction for Medical Examinations.

The General Secretary referred to the fact that he had received copies of an amendment to the booklet issued by the Department of Labour and National Service relating to instructions for medical examinations.

PAN-PACIFIC REHABILITATION CONFERENCE.

The General Secretary read a letter from Dr. Walter Wearn, Chairman of the Pan-Pacific Rehabilitation Conference held in Sydney on November 10 to 14, 1958. In it Dr. Wearn expressed his appreciation of the services rendered by the Federal Council in relation to the Conference.

WORKERS' COMPENSATION ACTS.

The General Secretary referred to a letter received from the Western Australian Branch in which it was recommended that the Federal Council discuss the desirability of any Branch wishing to review its own Workers' Compensation Schedule having prior discussions with other Branches before opening negotiations with the underwriters in its own State. The General Secretary advised that the recommendation had been referred to the Branch councils. The New South Wales and Tasmanian Branch Councils had approved it. The Queensland Branch Council said that it was not applicable in their State, the Victorian Branch Council regarded it as being not practicable, and the South Australian Branch Council considered that little was to be gained from it. However, the Federal Council expressed the opinion that any Branch wishing to amend its Workers' Compensation Schedule should have prior discussions with other Branches before opening negotiations with the underwriters in its own state.

AUSTRALIAN SOCIAL WELFARE COUNCIL.

A number of pieces of correspondence were received from the Australian Social Welfare Council, including a newsletter, a notice of the Fifth Executive Meeting of the Council and a request from the Executive Officer for suggestions as to subjects for the National Conference on Social Welfare to be held in Melbourne in May, 1960. A letter was also received from the Chairman of the Council, Professor Morven Brown, drawing attention to the parlous state of the Council's finances and appealing to constituent members for assistance. The Federal Council resolved to pay a special grant of £25 to the Council.

REHABILITATION.

At its meeting in September, 1958, the Federal Council expressed its thanks to Dr. C. W. Anderson, Dr. A. E. Lee and the General Secretary, Dr. J. G. Hunter, for the preparation of the report on rehabilitation services within the Commonwealth. The General Secretary said that the report had been submitted to the Minister for Health, the Minister for Social Services and the Minister for Labour and National Service. The Federal Council resolved to inquire from the Minister for Health as to the policy of the Government on rehabilitation in relation to the Federal Council's submission to the three departments.

ASSISTANT GENERAL SECRETARY.

The Federal Council considered a number of applications that had been received for the position of Assistant General Secretary of the Federal Council and resolved to appoint Dr. Charles James Ross Smith, the appointment to be subject to confirmation six months after the commencement of duty. The date of commencement of duty was left in the hands of the executive officers.

DATE AND PLACE OF NEXT MEETING.

The Federal Council resolved that the place of the next ordinary meeting of the Council should be in Brisbane and that the date should be left in the hands of the President.

VOICES OF THANKS.

The thanks of the Federal Council were extended to the Council of the New South Wales Branch for its hospitality and for the use of its offices and to Dr. E. F. Thomson and the Royal Prince Alfred Hospital and to Dr. and Mrs. A. G. Murray for their hospitality. The thanks of the meeting were extended to the President, Dr. H. C. Colville, for presiding and to Dr. J. G. Hunter and Miss H. Cameron for their services during the meeting.

Out of the Past.

In this column will be published from time to time extracts, taken from medical journals, newspapers, official and historical records, diaries and so on, dealing with events connected with the early medical history of Australia.

FIRST MEETING OF THE QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION.¹

[From the *Australasian Medical Gazette*, March, 1893.]

A SOCIETY has been formed in Brisbane with the object of becoming a branch of the British Medical Association and with the help of Dr. A. L. Kenny of Melbourne all the necessary steps for the attainment of the object have been completed. The membership at present number thirty-two—three of these are already members of the British Medical Association. The first regular general meeting was held on January 12 1893. The election of office bearers was proceeded with and resulted as follows.

President. Hon. W. F. Taylor M.D. M.L.C.

Vice President. Hon. C. F. Marks M.D. M.L.C.

Hon. Treasurer. E. S. Jackson M.B.

Council. J. C. Ellison M.B., W. Lyons M.R.C.S., J. G. Connolly M.R.C.S., E. O'Doherty L.R.C.S.

Hon. Secretary. Peter Bancroft M.B.

Correspondence.

CORTISONE AND CORNEAL ULCERATION.

SIR: We should be thankful to you and to Dr. Bignell for your warnings about the danger that cortisone may intensify herpetic infections of the eye (*Journal*, April 11, 1959, pages 503 and 510). There is further evidence of deleterious effects of cortisone on mild virus infections. Shee and Febrsen² saw the recrudescence of a varicella rash 32 days after it had disappeared, when the nine-years-old patient received cortisone for an urticarial penicillin reaction. Deaths from varicella are practically unknown, but Hill³ saw three deaths in children who had developed varicella when they were receiving cortisone for other conditions. Haggerty and Eley⁴ likewise witnessed three steroid deaths from varicella. They wrote to 65 paediatricians in Britain and North America, and were informed

of 10 similar deaths from varicella in patients ranging from one to eight years; some were taking as little as 25 mg. cortisone daily. Brailley and Ruseby⁵ reported three cases of severe varicella pneumonia with cortisone given for other diseases. Good et alii⁶ saw two severe cases of herpes zoster—a rare disease in children; one was taking prednisone, the other cortisone. Recently in Britain,⁷ severe herpes zoster was reported during steroid treatment of dermatitis. A death from vaccinia under steroids has been recorded.⁸

There are no antibiotics for the minor viruses and mycoses, whose intensity is much enhanced by steroids, both in man and experimental animals.

Yours, etc.,

410 Albert Street,
East Melbourne.
April 27, 1959.

MICHAEL KELLY.

APPROVED NAMES VERSUS TRADE NAMES.

SIR: As one who uses approved names rather than trade names, much to the amusement of my colleagues, I would like to draw attention to the invidious practice of using trade names in scientific articles. While the trade name may be more familiar in Australia, it may be unknown overseas. For example: "Inversine" in Great Britain and "Merasine" in Australia are the trade names for mecamlamine and "Saluric" and "Chlotride" respectively for chlorothiazide.

If it is considered necessary to pander to the popularity of trade names, could they not be mentioned only once, in brackets? I would advocate a definite editorial policy in this respect.

Yours, etc.,

100 Tooronga Road,
East Hawthorn, E.3,
Victoria.
April 14, 1959.

J. E. GAULT.

AUSTRALIAN PÆDIATRIC ASSOCIATION: ANNUAL MEETING.

SIR: I hope you will agree that when a surgical method is condemned in a way that shows misconceptions of its nature, its originator has a right of reply. Some years ago I described a method of treating hypospadias; since then it has been widely praised and also bitterly attacked, some of the attacks occurring in the meeting of the Australian Paediatric Association recorded in your issue of January 31, 1959.

Thus in disapproval:

1. Sir Kenneth Fraser¹ objects that my operation drags up the scrotal skin, and leaves the internal skin very close to the outer, so that fistula formation can occur. If the operation is properly performed the scrotal skin falls downwards in the opposite direction, and the distance between the two layers of skin is so great that fistulae are extremely rare (I have had none in my last 50 cases). This is provided that the double stop sutures are not pulled tight—a frequent fault.

2. Dr. Wakefield complains that my operation does not correct the chordee. Of course it does not, and it is not meant to. That is done at a quite distinct preliminary operation, which I blame myself for not having so far described. It is most important, more difficult than the second stage, and comparatively seldom properly performed. I should also have pointed out that an important effect of the final dorsal incision, the omission or skimping of which is one of the commoner causes of failure, is to shorten the upper surface of the penis. This counters the congenital shortening of the undersurface, and so gives, if any curve on erection at all, an upward one. This is no disadvantage sexually, whereas a downward curve makes proper insertion impossible. The illustrations of Sir Kenneth's results show a very short undersurface and a surplus of unused preputial skin on the upper side.

The inlay graft, which Dr. Wakefield recommends, "time and expense being no object" has been given up by McIndoe,² one of the real experts in it, in favour of my

¹ From the original in the Mitchell Library, Sydney.

² *Brit. med. J.*, 1953, 2: 82.

³ Philadelphia County Medical Society, April, 1956; quoted Olanaky et alii, *J. Amer. med. Ass.*, 1956, 162: 887.

⁴ *Pediatrics*, 1956, 18: 160.

⁵ *Proc. Minnesota Soc. intern. Med.*, 1957; cited in *A.M.A. Arch. intern. Med.*, 1958, 102: 217.

⁶ *Pediatrics*, 1957, 19: 95 and 272.

⁷ *Brit. med. J.*, 1959, 1: 648.

⁸ *J. Amer. med. Ass.*, 1956 162: 887.

method. Besides expense and time, there is another price to be paid for this technique, that of humiliation. No one who has discussed with a sufferer what it means to a young male to have to pass urine in private will under-rate this. As to time, we consistently send our boys to school at five years old on a urinary equality with their fellows; though as to money, a patient lost at this age means less for the surgeon.

3. MacCollum, in Gross's "Surgery of Infancy and Childhood" (1953), has taken the accusations of plagiarism from Duplay so literally that he evidently thought it unnecessary to look up my own writings. Had he done so, he would have noticed that I do not form the urethra round a catheter, as did that earlier surgeon and his many followers at the present day.

4. Smith and Blackfield⁴ published what they called a critique of operations for hypospadias, which, apart from recommending their own technique, consisted solely of abuse of mine. Their objections were that it was simply the oldest of all classical operations, that of Duplay; and at the same time that it was a wild, unsound and unproved proceeding. I answered this in a paper which I must confess I enjoyed writing.⁴

May I quote in defence?

1. Bengt Johansen of Sweden,⁴ who has used it in some 600 cases with a notable rarity of fistulae and other troubles. He has founded upon it a successful treatment of urethral stricture.

2. Meredith Campbell, in his classical book on "Clinical Paediatric Urology" (1951), recommends it strongly.

3. Twistington Higgins, Ellison Nash and Innes Williams recommend it alone in their work on the "Urology of Childhood" (1951). Together they represent immense experience and large numbers of cases.

4. Sir Harold Gillies⁴ and Sir Archibald McIndoe⁴, not unknown in the field of plastic surgery, consider it the operation of choice.

5. Orvar Swenson, who has certainly no superior in paediatric surgery at the present time, recommends it in his recent textbook.⁴ It is giving away no secret to say that he had troubles with it till he saw the operation properly performed.

6. I think no other method has been used at Great Ormond Street for many years.

7. I have had enthusiastic reports from France, Italy, Belgium, the U.S.A., South America and the Middle East.

May I comment on three other papers in that very interesting meeting?

I envy Dr. Dey his chance of observing the action of the palate in talking, and congratulate him on making the distinction between the shutting of the naso-pharynx in gagging and in speech. In my early work I was not clear on this; lately I have been comparing the two actions to the dropping of the upper lid over the eye in sleep, and the screwing up of the orbicularis to protect a threatened cornea from damage. However, I enter a mild protest against his advice that future operations should be planned with this in mind. For many years and on hundreds of cases I have been using the "orthopaedic operation", which alone allows the necessary action, and incidentally alone joins the actual ends of the muscular gap.⁴

Dr. Fowler advocates getting undescended testicles down by division of "the testicular vessels". In addition to the main artery and veins of the testis, this means all the nerves and also the suspensory fibres (not described by anatomists).⁴ If these fibres alone are identified and divided, in the vast majority of cases the testis will come down till the vas is tight, and if this will not allow it to come over the pubis, I leave it for a second stage. The division of "the vessels" was written up many years ago, and abandoned because of the invariable final atrophy reported.

Mr. Schlicht discusses club-foot, but though he agrees with me that this is a moulding deformity,⁴ he does not bring out that the primary factor in its production is not increased pressure but malposition. Among a vast number of arguments for this hypothesis, I have had several cases in which only one of a pair of identical twins was affected. I am puzzled as to why he suggests that the irregular deformities of the feet in spina bifida have a different causation; they could not possibly be caused by paralysis of muscles.

Yours, etc.,

DENIS BROWNE

46 Harley Street,
London, W.1.
April 2, 1959.

References.

- ¹Fraser, K. (1958), *Aust. N.Z. J. Surg.*, 27:3.
- ²McIndoe, A., personal communication.
- ³Smith D. R., and Blackfield, H. M. (1952), "A Critique on the Repair of Hypospadias", *Surgery*, 31:885.
- ⁴Browne, D. (1953), "A Comparison of the Duplay and Denis Browne Techniques for Hypospadias", *Surgery*, 34:787.
- ⁵Johansen, B. (1953), "Reconstruction of the Male Urethra in Strictures", *Acta chir. scand.*, 176:17.
- ⁶Gillies, H., and Millard, R. (1957), "Principles and Art of Plastic Surgery", Butterworth.
- ⁷Swenson, O. (1958), "Paediatric Surgery", Appleton-Century-Crofts.
- ⁸Browne, D. (1957), "Transactions of the International Society of Plastic Surgeons, First Congress", Williams and Wilkins, Baltimore.
- ⁹Browne, D. (1933), "Some Anatomical Points in the Operation for Undescended Testicle", *Lancet*, 1:460.
- ¹⁰Browne, D. (1955), "Congenital Deformities of Mechanical Origin", *Arch. Dis. Childh.*, 30:27.

THE TREATMENT OF TETANUS.

Sir: Among the recent articles and comments on the treatment of tetanus which have appeared in the Journal, there has been no mention of paraldehyde as a sedative.

During November and December, 1956, a severe case of tetanus in a sixteen year old boy was treated at Footscray and District Hospital. After various sedatives had been tried and discarded, spasms were controlled and the patient was kept in a state of unconsciousness by paraldehyde, supplemented by small doses of barbiturates at irregular intervals. The paraldehyde was initially administered intramuscularly, at the rate of 5 ml. every one or two hours, and later by Ryle's tube, at the rate of 1 to 2 dr. every hour. It was found that the total daily dose by this latter route averaged 30 dr. The tube was also used for feeding a fluid diet, administration of antibiotics, "Elixir Myanesisin", and occasional 3 to 6 grain doses of quinalbarbitone.

Although the patient developed bronchopneumonia, this was controlled by physiotherapy and antibiotics, and a tracheotomy was not required.

An interesting sidelight was that the lad was still excreting paraldehyde from his sweat glands six weeks later.

Yours, etc.,

L. HEMINGWAY.

30 Liebig Street,
Warrnambool,
Victoria.
April 17, 1959.

MEDICAL TECHNOLOGY CONVENTION.

Sir: Further to my previous letter (February 21, 1959) on the subject of "medical technology", your readers may be interested in a definition of the word technologist and also in a definition of "medical technologist".

A definition of the former is taken from "Scientific and Engineering Manpower Survey" written by Richard Fort and published by P.E.P. (Political and Economic Planning). It reads—"Scientist, Technologist or Engineer in a general way is a man or woman trained in either fundamental or applied science to the level of a university degree or its equivalent. The term, therefore, applies both to research workers extending the boundaries of fundamental knowledge and to the much larger number of scientists applying research to practical ends".

The second definition is taken from the "Brochure of the Examining Council in Medical Technology (N.S.W.)". It reads—"A Medical Technologist may be defined as a person who, by reason of general and specialized training, has satisfactorily completed a six year course of study (for exceptions and exemptions see below) culminating in the award of the Diploma in Medical Technology".

The exclusive character of the second definition is striking. The nature of the general and specialized training is revealed by study of the six year syllabus (five years under certain circumstances). The course is part-time and consists of two parts, (i) Biology Certificate Course which is conducted by the Sydney Technical College (four years), and (ii) The Diploma Course conducted by the Examining

Council in Medical Technology (two years). Possession of the Intermediate Certificate admits to the Biology Certificate Course. Admission to the Diploma Course is dependent upon (i) full-time employment in approved medical laboratory, and (ii) successful completion of Biology Certificate Course. The two year course is concerned with teaching laboratory procedures carried out according to prescribed methods.

The Examining Council's standard does not coincide with the educational standard of the P.E.P. definition. Comparison makes the differences obvious and demonstrates the contrast between scientist and operative.

Further, as no medical teaching is included in the Diploma Course of the Examining Council in Medical Technology, one is brought back to the query, "Why Medical Technologist?" The suitability or otherwise of the title 'technologist' may be tested in a direct way, namely by reviewing the past and present performance of laboratory technicians—or should I say "Medical Technologists"? I shall not elaborate this on the present occasion.

Is there some very powerful motive for erecting a modern Tower of Babel in our midst? What could such motive be?

Yours, etc.,

J. R. S. DOUGLAS,
Director of Pathology.

The Royal Newcastle Hospital,
Newcastle, N.S.W.
April 15, 1959.

Post-Graduate Work.

THE POST-GRADUATE COMMITTEE IN MEDICINE IN THE UNIVERSITY OF SYDNEY.

Examination Results.

THE Post-Graduate Committee in Medicine in the University of Sydney announces that the undermentioned candidates

satisfied the examiners at the recent examinations for Part I of the various medical diplomas of the University of Sydney as shown.

Anæsthesia: R. B. Holland, B. P. F. Mooney, B. E. Sharkey.

Dermatological Medicine: A. E. Cronin, J. B. Francis, Bernadette D. Gillam, R. D. Julian, R. M. Tipping.

Gynaecology and Obstetrics: F. C. Hinde, I. Maxwell.

Ophthalmology: G. Pittar.

Psychological Medicine: W. J. Barrett, J. S. Blow, J. T. Herron, A. J. Merrifield, B. A. Mezo, J. W. Shand, A. L. Slater.

Diagnostic Radiology: D. J. Bassett, T. J. Hanks, F. G. Harrison, T. S. Lamond, A. D. Smythe.

The following candidates were successful in passing the recent examinations for the Diploma of Clinical Pathology: Group I: F. Jennis; Group II: Penelope J. Davis, P. D. Dawes, L. A. Feain, B. N. Purser; Group III: P. D. Dawes, Tatiana Jelihovsky, K. O. A. Jones, Phyllis Richards.

The following candidates have now successfully completed Groups I, II and III, and are eligible for the award of the Diploma in Clinical Pathology: P. D. Dawes, Tatiana Jelihovsky, F. Jennis, Phyllis Richards.

Notes and News.

The Cardiac Society of Australia and New Zealand.

THE Cardiac Society of Australia and New Zealand announces that the R. T. Hall Overseas Lecturer of the Society for 1959 is Dr. A. Rae Gilchrist. Dr. Gilchrist is the President of the Royal College of Physicians of Edinburgh, and physician to the Royal Infirmary, Edinburgh. He will arrive in Australia on May 15, and will give post-graduate lectures in Canberra, Sydney, Brisbane, Melbourne and Perth, in conjunction with the post-graduate committees in medicine in the various States. In Adelaide he will attend the annual meetings of the

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED APRIL 11, 1959.¹

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism	2(2)	5(4)	..	..	..	..	..	7
Amoebiasis
Ancylostomiasis	2	..	..	..	..	..	2	..	4
Anthrax
Bilharziasis
Brucellosis
Cholera
Chorea (St. Vitus)
Dengue
Diarrhoea (Infantile)	6(1)	7(7)	7	..	..	..	..	..	20
Diphtheria	1	..	..	..	..	..	1
Dysentery (Bacillary)	2(2)	1	9(5)	7(7)	..	..	..	19
Encephalitis	1	..	..	..	..	..	..	1
Filariasis
Homologous Serum Jaundice
Hydatid	1	..	..	..	..	..	..	1
Infective Hepatitis	62(23)	44(24)	5(2)	13(9)	1(1)	..	3	1	129
Lead Poisoning
Leprosy	1	..	1
Leptospirosis	5	..	..	..	..	..	5
Malaria
Meningococcal Infection
Ophthalmia	4	..	..	..	4
Ornithosis
Paratyphoid
Plague
Poliomyelitis
Puerperal Fever
Rubella	25(15)	..	..	2(2)	..	..	1	28
Salmonella Infection	1(1)	2(2)	..	..	..	3
Scarlet Fever	17(2)	22(21)	..	1(1)	2(2)	2(1)	..	..	44
Smallpox
Tetanus	2(1)	..	..	..	..	3
Trachoma	10(4)	..	213	..	220
Trichinosis
Tuberculosis	10(6)	13(11)	7(3)	3(3)	11(9)	..	7(5)	..	57
Typhoid Fever
Typhus (Flea-, Mite- and Tick-borne)
Typhus (Louse-borne)
Yellow Fever

¹ Figures in parentheses are those for the metropolitan area.

Cardiac Society of Australia and New Zealand and The Royal Australasian College of Physicians, and will contribute to the plenary session.

Australian Medical Board Proceedings.

QUEENSLAND.

The following have been registered, pursuant to the provisions of Section 19 (1) (a) and (c) of *The Medical Acts, 1939 to 1955*, of Queensland: Crawford, William John, M.B., B.S., 1957 (Univ. Queensland); Pincus, David Fabian, M.B., B.S., 1958 (Univ. Queensland); Faulks, Allison Diane, M.B., B.S., 1958 (Univ. Sydney); Faulks, Lewis William, M.B., B.S., 1958 (Univ. Sydney); Smith, Ronald John, M.B., Ch.B., 1957 (Univ. Liverpool).

The following have been registered, pursuant to the provisions of Section 19 (1) (a) and (d) of *The Medical Acts, 1939 to 1955*, of Queensland: Palfreyman, Colin Russell, M.B. B.S., 1930 (Univ. Melbourne), D.O.M.S., R.C.P., London, R.C.S., England, 1937, F.R.C.S., Edinburgh, 1949; Jelliffe, Robin Stewart, M.B., B.S., 1950 (Univ. London).

The following have been granted limited registration, pursuant to Section 20 (3) of *The Medical Acts, 1939 to 1955*, of Queensland: Elliott, Cyril Francis, M.B., B.S., 1959 (Univ. Queensland); Green, William John Stanley, M.B., B.S., 1959 (Univ. Queensland); Breittkreutz, Neville Arthur, M.B. B.S., 1959 (Univ. Queensland); Oen, Eng-Yat, M.B., B.S., 1958 (Univ. Queensland); Duke, Iris Maureen, M.B., B.S., 1958 (Univ. Queensland).

The following additional qualifications have been registered: Huybers, Kenneth Alfred, Dip. Bact., Univ. London, 1951; Singer, Ernest, M.C.P.A., 1959; Clarke, Charles George Drury, D.A., R.C.P., London, R.C.S., England, 1959; O'Reilly, James Kevin, F.R.A.C.S., 1959.

TASMANIA.

The following have been registered, pursuant to the provisions of the *Medical Act, 1918*, of Tasmania, as duly qualified medical practitioners: Harries, John Victor, M.B., Ch.B., 1953 (Univ. Capetown); Trewartha, Anthony McCrae, M.B., B.S., 1956 (Univ. Melbourne); Pettit, Kenneth Edward, M.B., B.S., 1954 (Univ. Melbourne); Andrews, John Thomas, M.B., B.S., 1955 (Univ. London), M.R.C.S., L.R.C.P., London, 1955, D.O.R.C.O.G., 1958; Hutchinson, John Martin, M.R.C.S., London, 1957, M.B., B.S., 1957 (Univ. London); Pendrigh, Iain Russell, M.B., Ch.B., 1958 (Univ. Edinburgh); Smurthwaite, Peter Lionel, M.B., Ch.B., 1958 (Univ. Edinburgh).

The following medical practitioners have been provisionally registered, in pursuance of Section 14A of the *Medical Act, 1955*: Bilton, Anthony Herbert, M.B., B.S., 1958 (Univ. Adelaide); Young, Connear, M.B., Ch.B., 1959 (Univ. St. Andrews).

Corrigendum.

THE COLLEGE OF RADIOLOGISTS OF AUSTRALASIA: EXAMINATION RESULTS.

In the list of successful candidates at the examinations (Part II) for membership of The College of Radiologists of Australasia, published in the *Journal* of April 11, 1959, at page 511, the name of Dr. W. R. Vautin (New South Wales) appears as Dr. W. R. Cautin. We regret this error.

Medical Appointments.

The undermentioned appointments have been made at the Queen Elizabeth Hospital, Adelaide:

Dr. F. A. Dibden has been appointed Honorary Radio-therapist.

Dr. C. M. Gurner has been appointed Honorary Radio-therapist.

Dr. M. J. W. Sando has been appointed Honorary Assistant Anaesthetist.

Dr. W. H. Benson has been appointed Honorary Assistant Radiologist.

Dr. J. M. Nicholls has been appointed Honorary Clinical Assistant, Department of Anaesthesia.

Diary for the Month.

- MAY 18.—Victorian Branch, B.M.A.: Finance Subcommittee.
- MAY 19.—New South Wales Branch, B.M.A.: Medical Politics Committee.
- MAY 18.—Victorian Branch, B.M.A.: Finance Subcommittee.
- MAY 19.—New South Wales Branch, B.M.A.: Medical Politics Committee.
- MAY 20.—Victorian Branch, B.M.A.: Clinical Meeting at St. Vincent's Hospital.
- MAY 21.—Victorian Branch, B.M.A.: Executive of the Branch Council.
- MAY 21.—New South Wales Branch, B.M.A.: Clinical Meeting.
- MAY 22.—Queensland Branch, B.M.A.: Council Meeting.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales. Anti-Tuberculosis Association of New South Wales.

South Australian Branch (Honorary Secretary, 80 Brougham Place, North Adelaide): All contract practice appointments in South Australia.

Editorial Notices.

ALL articles submitted for publication in this *Journal* should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations, other than those normally used by the *Journal*, and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given: surname of author, initials of author, year, full title of article, name of journal, volume, number of first page of the article. The abbreviations used for the titles of journals are those of the list known as "World Medical Periodicals" (published by the World Medical Association). If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors submitting illustrations are asked, if possible, to provide the originals (not photographic copies) of line drawings, graphs and diagrams, and prints from the original negatives of photomicrographs. Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary is stated.

All communications should be addressed to the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2-3.)

Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay, of any irregularity in the delivery of this *Journal*. The management cannot accept any responsibility or recognize any claim arising out of non-receipt of journals unless such notification is received within one month.

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